

CULTIVATE

FLORIDA HORTICULTURE FOR HEALTH NETWORK

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The Florida Horticulture for Health Network's vision: To promote activities and connect organizations to each other and resources that use horticulture to improve health including: therapeutic horticulture and horticultural therapy, landscapes for health, nature, emerging professional support, allied horticulture and health services, community and school gardens, and food action initiatives.

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A wetland field filled with yellow pitcher plants on the edge of a pine forest in the Florida Panhandle. Photo: J. Talbert

Fostering Sense of Place in Communities Using Native Plants

Text by Bree Stark

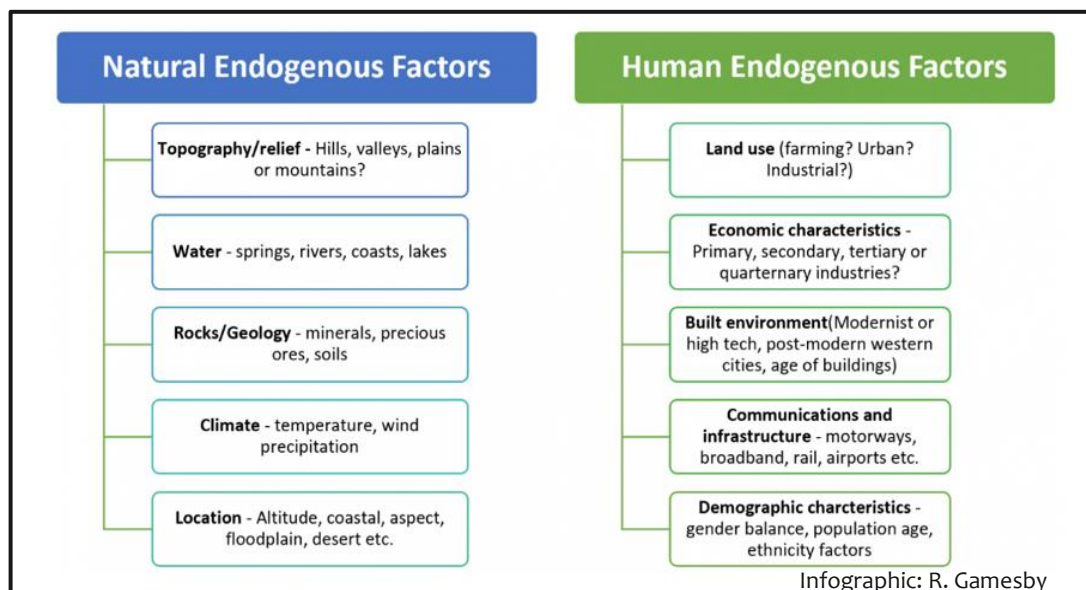
Photos by J. Talbert

& R. Gamesby

Sense of place turns “somewhere” where we dwell into our home and when extended outward, our community and culture. It fosters connection, provides orientation to the world as well as to the ecosystem around us, and informs the development of those who live there. Sense of place in each region grows from a mixture of distinct environmental, geographical, climactic, industrial, architectural, and social factors (Rajala, 2020). The better this place-sense enmeshes citizens, the better it provides the necessary cradle for active participation of those who live there in the [planning and development of their collective space](#) (Lupton Center, n.d.; Gamesby, 2015).

For example, if a community or city [values accessibility](#) in the planning and development of both infrastructure and public proceedings, it helps foster a sense of place and belonging for citizens with disabilities. If citizens with disabilities have easy access to public proceedings and social spaces, then their vital perceptions and opinions will further benefit the community and help it evolve in even more

accessible ways into the future. Neighborhoods that do not provide this level of belonging will often lose those people to places that do, and in so suffer a great loss.



Without a sense of place community involvement, civic identity, and social empathy decreases. Environmental indifference often increases and the socially-perceived value of the ecological systems unique to the area lessen or disappear. As American novelist Ralph Ellison wrote, “If you don’t know where you are, you don’t know who you are.” And if people don’t know who they are and where they are at, why should they care? At the least it can lead to apathy or, worse, to fear, dysphoria, and isolation (Foote et al., 2009).

The good news: fostering a sense of place can start with a small change, right in backyards as well as shared spaces such as parks and community gardens. Since ecological factors contribute to this place-sense phenomenon, (Hausmann et al., 2015) this means native plants can be allies and teachers in reorienting to personal bioregions. By planting native plants, people not only learn about where they are but also physically reaffirm that where they are is where they want to be.

Furthermore, native plants provide a sense of place to the non-human residents of a community. Without native plants that provide habitat as well as food, the furred, feathered, and scaled members of the neighborhood cannot survive. A 2018 study looked at [Carolina chickadees](#) in the urban environment and what kind of landscape supported population growth. They found that 70% native plants in the landscape were necessary to stabilize a local population, and

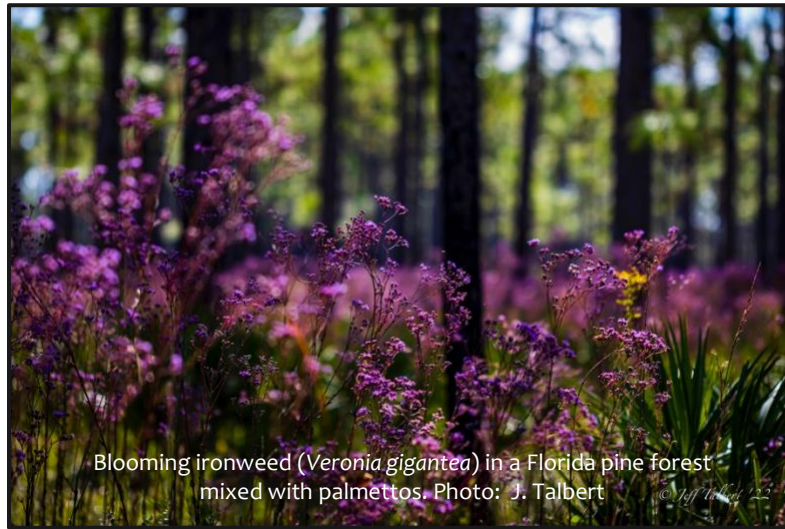


ideal for population growth (Narango et al., 2018).

When [nonnative plants](#) dominate, it leads to a loss of native host plants – without native insects, particularly caterpillars, the adults could not provide adequate nutrition to their nestlings and would then forego reproduction. A single brood of chickadees requires over 6,000 caterpillars on average (Audubon, n.d.). While humans are currently adaptable and can readily retrieve resources from outside networks, other living beings cannot, and overtime may be completely lost to a given region. Our sense of place falters and suffers without them. What is the land without the inhabitants?

Non-native plants, especially [invasive types](#) that outcompete native flora, can also remove sense of place. This is an effect especially compounded in Indigenous American and other global indigenous communities whose sense of place and cultural way of life is still deeply roots in the environment (Schelhas et al., 2021). But even for those further removed from the land, when the same handful of species are used exclusively in developed environments, it can erode ecological identities and confuse the ability to orient to the world. One could be *anywhere*, for example, where the same crape myrtles, boxwoods, and flat expanses of five or so species of nonnative grasses, and lanes of liriope and walls

of Ligustrum are *everywhere*. Monotony and boredom walk hand in hand and can lend to a dissociated populace.



Blooming ironweed (*Veronia gigantea*) in a Florida pine forest mixed with palmettos. Photo: J. Talbert

Other benefits of choosing native plants include reduced resource consumption since they are adapted to local rainfall and soil, increased diversity in both plants and animals, lower maintenance needs, as well as opportunities to connect and socialize (Beckwith, 2022). A never-before-seen flower blossoming could be the

conversation starter that leads to meeting a new neighbor; perhaps that conversation even motivates them to convert more of the land they steward back into native plants. Community native plant gardens with educational signage can provide inspiration to residents, celebrate the particular area and provide place-oriented recreational and social gathering spaces.

This subject can be explored in much greater detail, but this brief snapshot provides an understanding of what is a sense of place, why having a sense of place is important and one of the ways that individuals can personally contribute to reestablishing and reaffirming a sense of place within communities.

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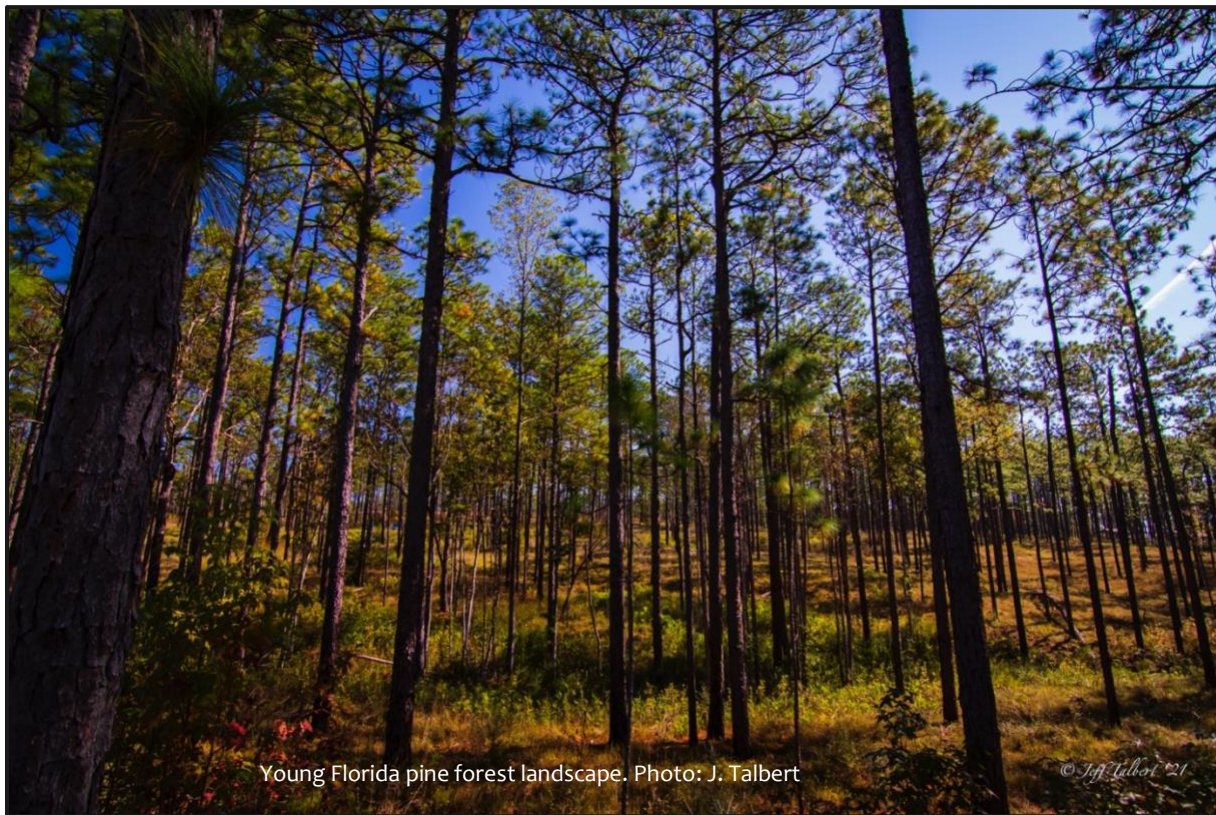
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Bree Stark recently completed the Horticultural Therapy Certificate from the University of Florida and continues to work with the program as program assistant. Bree is the administrator of the Florida Horticulture for Health Network's website and received their Professional Service Award in recognition of ongoing volunteer efforts. Bree's areas of focus in the therapeutic horticulture field include prolonged grief disorder, ecological grief and substance use disorder.



Young Florida pine forest landscape. Photo: J. Talbert

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The Treatment Process: Measuring Outcomes

Text & photos by Lesley Fleming, HTR
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Many disciplines, including horticultural therapy, use treatment processes when working with people seeking health improvements. The four main components of the process and of a [treatment plan](#)—assessment, goal-setting, therapeutic activity, and measuring outcomes—are essential for not only achieving the desired health outcomes, but for delivering quality treatment based on standards of practice. A four-part series [published in *Digging In* 2021] focused on each of the component parts of a treatment plan.

The Treatment Process—Measuring Outcomes

[Measurable outcomes](#) are standards of practice that therapeutic and medical professionals use to maximize client improvement. Measuring outcomes that have resulted from treatment allows client, provider, family and others to gauge progress and effectiveness of treatment. The process of first identifying health goals, and then determining how to measure progress from the intervention has proven to be an effective process that keeps the focus on client improvement. When treatment involves interdisciplinary teams, the process, protocols, and measurable outcomes allow for cross-discipline understanding and collaboration.

Common terms, concepts and practices are used for measurable outcomes across disciplines including [horticultural therapy](#). The acronym SMART is often used to remind practitioners what to include when writing treatment goals to ensure outcomes are measurable. (*Digging In's* spring 2021 issue article [The Treatment Process: Goal-setting](#) discussed SMART goals—Specific, Measurable, Action-oriented, Realistic & Time-based). The measurable outcomes must relate directly to the health deficits and goals. Expressing the outcomes using quantifiable terms provides for more objective, less subjective analysis of health improvements. Anecdotal comments, though more prone to subjective bias, are still used in certain contexts as part of the treatment process.

Several metrics are used in measuring horticultural therapy outcomes:

Numerically Quantifiable: Comparison trials, timed trials—length of time for standing tolerance, length of forward reach, speed and accuracy of seed planting.

Client Articulation: Client articulates goals, strategies or behaviors and may include self-reflection. Note that the therapist may specify the number and type of strategies as a treatment goal for client.



Observational: These can include observed behavior, abilities, attitudes - cooperation with others, willingness to undertake task, learning a new skill, flexibility during session. Anecdotal observations may be used in conjunction with other types of metrics.

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Lesley Fleming, HTR has been active in the field of horticultural therapy for more than a decade, with recent research focused on dementia populations.



Aligning Plant Activities with Therapeutic Goals for Use by Senior Populations

Text by Lesley Fleming, HTR, Mikkele Lawless, Susan Morgan, MS, Betty Guise, LWS,
Jan Lane, HTR, Daniela Silva Rodriguez & Daniela Perez Lugones
Photos by M. Lawless, B. Guise, D. Silva & J. Lane

Plant activities for seniors are delivered in a variety of settings, including hospice, hospitals, garden clubs, assisted living, memory care, skilled nursing facilities and community day programs. Often referred to as a cohesive group sharing similar health attributes, in reality, senior populations present with a range of abilities, health challenges and life experiences. Recognizing each individual's mental and physical functioning is essential when delivering therapeutic horticulture sessions, though at times these are delivered as group sessions. Selecting plant activities that can address therapeutic goals - in recreation or treatment sessions allows practitioners to hone core competency skills while using the treatment process framework where health deficits, goals, activities, and documented outcomes are aligned. The following are some examples that have been used effectively with seniors:



Photo: B. Guise

| Plant Activity | Description | Therapeutic Goal |
|---|--|---|
| Bug Hotel | Inserting various nature items into a pre-made wooden structure, milk carton or can, to be used as a bug hotel; cut bamboo/hollow stems, pine needles/cones, moss, sticks, bark; nature walk can also be part of this activity | Promoting tactile sensory stimulation through touching nature items; promoting socialization as a group activity; connecting to nature as part of a nature walk |
| Wearable Art – Mardi Gras mask, decorated Kentucky Derby hat, Olympic crown | Using dried & live cut or pressed flowers, greenery & purchased hats or eye masks, attach items for personal art expression | Creative expression selecting & decorating personalized mask; increasing physical |

| | | |
|---|---|---|
| | | activity at parade of wearable art |
| Dying Fabric with Plant-based Dyes– hankies etc | Using non-toxic berries (blueberry & strawberry), pounding berries to make liquid natural dye, tie-dying or other techniques can be used | Connecting with nature using berries; introducing strategy of pounding berries for emotional release |
| Lavender Sachets | Making sachets (lavender or other herbs), exploring & integrating memory-smell connections | Stimulating reminiscing, memories of relationships & other to elevate mood |
| Winter Solstice Votive | Decorating a glass/plastic votive with flat nature items (pressed flowers, skeletonized leaves), inserting small battery-powered candle appropriate for use in hospitals & other settings | Simulating sense of time; coping strategy for looking forward, moving beyond health challenges; intellectual understanding of importance of (natural & mood) light on mood & melatonin production |
| Salt Hand Scrub | Creating scrub from salt, coconut oil & lavender flowers for personal use, gift item or fundraising event | Tactile/olfactory sensory stimulation; self-care; role reversal making gift for others |
| Pressed Plants & Flowers | Using plant presses, books or clay, press flowers for use in bookmarks, cards, votives | Maintaining hand dexterity, strength & fine motor skills; creative expression |
| One in a Melon Watermelon Door Hanger & Fruit Tasting | Making paper watermelon decoration, tasting watermelon, taking turns wearing humorous <i>One in a Melon</i> watermelon mask with added phrase “One in a Melon” | Practicing cognitive skill of following directions; hand-eye coordination with cutting/gluing; gustatory sensation of tasting fruit |

| | | |
|--------------------------------|---|--|
| Corn Husk Doll | Making small dolls using purchased corn husks & twine; fragrant herbs can be inserted; storytelling | Reminiscing family/holiday traditions; olfactory component for stimulating recall; fine motor skill practice |
|--------------------------------|---|--|



Various tools and metrics are used for documenting health outcomes including numerically quantifiable tests, anecdotal observational notation, and client articulation. Facilities often implement specific protocols for charting and documentation. The accompanying article [The Treatment Process: Measuring Outcomes](#) (Fleming, 2021) provided more detail on this aspect. Block format-remove this

Fleming, L. (2021). The treatment process: Measuring outcomes. *Digging In*, 7(4), 9-10.

The co-authors of this article collaborated on plant activities for senior populations in a virtual forum hosted by the [Florida Horticulture for Health Network](#). Each has training in horticultural therapy: Mikkele Lawless, Susan Morgan, Betty Guise & Daniela Silva Rodriguez have Certificates in Horticultural Therapy. Daniela Perez Lugones is an HT Certificate student. Jan Lane & Lesley Fleming are registered horticultural therapists.

Exploring the History and Uses of Mustards: A People-Plant Lesson Plan for Horticultural Educators

Text by Bree Stark
Photos from Canva Pro



Humans have a long history of interacting with and domesticating plants for food, medicine, fiber, housing –Homo sapiens’ existence is reliant on lifecycles of plants and the natural world. One of the oldest cultivated plant companions is the mustard plant, in the genus of Brassica. People not only grow this plant to eat the leaves, both cooked and raw, but also for its seed that can be used to make one of the oldest and widely used condiments: mustard paste.

Objective: Participants will learn about food & agriculture, specifically the [history](#) and [lifecycle](#) of mustard plants and how to safely prepare a simple mustard paste using proper food safety techniques. This activity can be scaled, either a single class session or incorporated into a semester long project growing plants from seed to seed. Age range 13+.

Materials needed:

- Mustard seeds (yellow is milder)
- Mustard leaves (optional)
- Vinegar (white, apple or wine)
- Kosher salt, turmeric powder, paprika
- Small food processors, mortar & pestle
- Water & sink access (kitchen ideal)
- Table space
- Small jars (one per student) + labels
- Hand soap/sanitizer, paper towels
- Food safe gloves (variety of sizes)
- Spoons
- Makers

Background

Humans documented domesticating plants in the [genus of Brassica](#) as early as 4,000 years ago for use as oil, spice, and medicine (Wysocki et al., 2002). Brassicas include mustards, along with broccoli, Brussel sprouts, cabbage, bok choy, and more (Samec et al., 2019). Scientists still debate the exact location and timeline of domestication, but their wild progenitors are native to temperate Asia, the Mediterranean and Europe. (Pires et al., 2013).

Mustards are annual crops growing in a single growing season and have eight principle life stages: germination, leaf development, stem elongation (growth), inflorescence emergence (budding), flowering, fruit development, ripening and senescence (old age/death) a(SMDC, 2022). Humans consume over 700 million pounds of mustard each year. Interestingly, it isn’t until water or vinegar is added to mustard seeds that their characteristic spicy flavor emerges. This is due to a chemical reaction involving an enzyme and glucoside in the seeds and the liquid base, a byproduct being the pungent oil allyl isothiocyanate (Science of Cooking, n.d.).

Laying the Groundwork

Prior to the session, soak mustard seeds in vinegar overnight. Consider preparing the seeds in different vinegars for taste comparisons, and mustard leaves to taste. Note that mustard paste can cause irritation to the face and eyes if accidentally transferred while rubbing or scratching. Have everyone wash hands, use food grade gloves, and review kitchen and lab safety rules.

Starting with basics about the Brassica genus ask students “What is your favorite [type of Brassica](#)?” Explain the lifecycle of mustards, cultivation history and modern consumption rates. Pass mustard leaves around encouraging the students to try a small nibble (pre-confirming no allergies exist). Moving onto the mustard paste preparation station, each student should be involved in the steps, encouraging teamwork, cooperation and sharing. Both food processors and mortar and pestle can be used to crush the soaked seeds exploring preferences for smooth, quick results of the processor or the intimacy and challenge of hands-on creation.

Exploration (Buchanan, 2020)

1. Show the mustard seeds explaining the paste creation process using both the food processor & mortar and pestle. Add water one tablespoon at a time for desired consistency.
2. Encourage each student to try each step of the process and share with others, facilitating the order and helping when requested.
3. Consider limiting the number of food processors/mortar & pestles to practice turn-taking, patience and cooperation.
4. Ladle the finished mustard pastes into sterilized 4 oz mason jars, securing with a lid: label with name, date and ingredients. Shelf-life when refrigerated in a jar is 4-6 months; flavor mellows over the first 2-3 days. Clean up the workstation with the students.



Making Connections

During the mustard paste creation process, facilitate discussions about favorite ways to use mustard, favorite types of mustard, [and nutritional information about mustard](#) (both condiment and [plant](#)). (Divakaran et al., 2016; TGMF, n.d.; Frazie et al., 2017).

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Tomato, Tu-may-tow, Tu-mah-toe

By Lesley Fleming, HTR

Photo by Jeff I. Unsplash

Original publication in *Digging In* 4(2), 2018.

Tomatoes register high on the giggle scale. Tasty of course, but tomatoes have other well-known attributes including the Gershwins' showtune—*You Say Tomato! I Say Tomato* and confusion over their standing as a fruit or a vegetable. Add to this, tomato varietal names which range from descriptive to downright silly: 'Mortgage Lifter', 'Purple Haze', 'Solar Fire', 'Abracazebra', 'Malakatovoya Shktulka' aka Malachite Box, 'Chocolate Stripe', 'Yellow Gooseberry', 'Fresh Salsa', 'Gladiator', 'Big Daddy', 'Stick Curl' with naturally curled leaves, 'Sweet Seedless' and 'Japanese Black Trifele' with its large bell shape. As of 2018 there were more than 15,000 varieties in active cultivation and another 3,000 heirloom/heritage tomatoes with every conceivable name!



The tomato (*Solanum lycopersicum*) is part of the nightshade *Solanaceae* family. Its origins pre-domestication are traced to Peru.

Over the years, selective breeding has generated thousands of varieties with diverse names, colors, shapes, personalities and flavors.

Like the names of varieties, the flavor descriptions are meant to entice. Sometimes grouped by flavor profile, the descriptions try to articulate the balance between sugar, acidity, and other elusive compounds. 'Big Beef', 'Bonnie Original' and 'Cherokee Purple' have rich, balanced flavor. 'Lemon Boy', 'Mr. Striped' and 'Black Prince' are full-sized tomatoes with low-acid, sweet flavor. Black heirloom tomatoes are described as wine-like, smoky and complex. As for color, varieties come in red, green, purple, pink, burgundy, yellow, black and orange. And let's not forget striped and streaked.

Growing tomatoes requires full sun for eight hours and evenly moist soil. Too much moisture causes root rot, too little results in cracks. Blossom drop and blossom end rot are due to uneven watering. Indeterminate tomato varieties produce fruit until frost, typically on long vines which are best staked; 'Cream Sausage' has a pale yellow finger shape; 'Black Krim' is a salty, brown Russian variety. Determinate tomatoes, as the name suggests, grow to a specified size while producing fruit over a determined period of a few weeks. Typically bushier and not as tall, these varieties, like the pink hybrid 'Early Wonder', need less staking.

With a name derived from Spanish meaning swelling fruit, tomatoes are an intriguing, evocative edible with lots to offer.

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