

# DIGGING IN

NOVA SCOTIA HORTICULTURE FOR HEALTH NETWORK

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The Nova Scotia Horticulture for Health Network is a coalition of people interested in supporting horticulture for health initiatives through resource-sharing, exchange of practices/knowledge, and networking.



## Superfood Garlic: Applications for People-Plant Programming

By Lesley Fleming, HTR & Janice Morrison, Dip.OH

Garlic has many health attributes including being a versatile plant for people-plant programming. It is used for horticultural activities in therapeutic horticulture, horticultural therapy interventions, for sensory stimulation, as well as a popular food crop grown at community, school and home gardens.

### Applications for Special Populations

Special populations with diverse health challenges and goals include garlic activities in their programming. Cancer support groups incorporate garlic as symbolic nurturing and self-care activities, in addition to nutrition education, and in healthy lifestyle counseling. Programs for people on the autism spectrum and those with other sensory deficits including [chemosensory dysfunction and anosmia](#) utilize garlic in similar activities, often with a focus on sensory inputs as strategies for coping with deficits, enhancing mood, stimulating desire to eat, and strengthening of other senses (Fleming, 2021). Programs working with food insecure populations find growing garlic can be economical due to easy propagation, long shelf life,

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Top right: L. Fleming  
Lead article: H. Ling.unsplash

and nutritional density. Vocational horticulture programs at corrections facilities, residential homes for people with intellectual disabilities, and greenhouse sites grow garlic as a food crop for commercial and institutional use. Senior programming, both active aging participants and those who have diminished taste and smell due to aging, find the strong flavor and smell of garlic can be invigorating, prompting reminiscing and sharing of stories and recipes, which in turn can expand communication and socializing among group members. Wellness programs look to current trends, food blogs and nutritionists for activities that include garlic in healthy diets (see p.4 article [Garlic Four Ways](#)).

Pumpkin Hummus  
3 cloves garlic  
1-19 oz. can chickpeas, drained, rinsed  
1 cup pure pumpkin puree  
¼ cup olive oil, 2 t lime juice  
1 t curry paste, ¼ t ground cinnamon  
¼ cup water, 2 T chopped cranberries  
parsley

### Garlic's Nutritional Benefits

The nutritional benefits of garlic place it in the superstar category. It is high in vitamin B and C, iron, copper, selenium, manganese, potassium and allicin (Northwestern Medicine, 2020). Although few clinical trials have been done, its compounds of sarginine, flavonoids, selenium, and oligosaccharides are considered to be beneficial to health. Studies on potential anticancer effects continue, with its antibacterial properties, important for some infections resistant to antibiotics, and phytochemical content investigated for cancer prevention. The literature has also cited garlic's ability to reduce cholesterol and triglycerides, thus lowering blood pressure and improving heart health (Ansary et al, 2020).

*"The National Cancer Institute, part of the National Institutes of Health, does not recommend any dietary supplement for the prevention of cancer, but recognizes garlic as one of several vegetables with potential anticancer properties. The World Health Organization's (WHO) guidelines for general health promotion for adults is a daily dose of 2 to 5 g of fresh garlic (approximately one clove)".*

<http://www.cancer.gov/cancertopics/factsheet/prevention/garlic-and-cancer-prevention>

When using garlic in people-plant programming, individual's sensitivity should be considered. These may include allergies, bloating, diarrhea, stinging on the skin, and possible interference with some heart medications. Tolerance to garlic can be determined by gradually increasing amounts watching for ill effects, and/or consulting medical professionals. For concerns about bad breath, it is recommended that chewing lettuce, apples or mint leaves can neutralize the sulfur compounds that can last up to 2 days in lungs (Calderone, 2018).

### Growing Garlic

Garlic, a member of the *Allium* family, like leeks, chives and shallots, is considered easy to grow. It is one of the world's most common condiments, also used for medicinal purposes throughout the world.

There are two sub-species of garlic - softneck (*A. sativum* var. *sativum*) and hardneck (*A. sativum* var. *ophioscorodon*). The latter has [several varieties](#): porcelains (longest storing with white wrappers and large cloves), rochamboles (excellent raw earthy flavor), Persian Stripes (rich sweet flavour often used for roasting), and elephant (not really garlic, rather a leek, with mild flavor).

Propagating garlic can be done using three methods. Growing from seed is difficult and seed availability is limited. Propagating cloves from an existing bulb is the most common method, successful

for both types of garlic; organic garlic bulbs are recommended. The third method uses bulbils, the mini-cloves of hardneck garlic that develop in the flower. This requires a plant to grow scapes, flower and go to seed, harvesting the bulbils in late summer.

It is recommended [planting garlic](#) in the fall, in full sun with good drainage in ground or containers. The cloves or seed/sections of the bulb should be cracked apart with paper intact, then planted in a hole or furrow with the flat or root end down, the pointed end up. With 2 inches of soil on top, space cloves 6 to 8 inches apart, mulched with 6 inches of straw or dried grass mixed with leaves. To get the cloves off to a good start and protect them from fungal diseases, soak them in a jar of water containing one heaping tablespoon of baking soda and a table of liquid seaweed for a few hours before planting. Shoots will appear in 4 to 8 weeks, depending on variety and weather. Garlic will be dormant during winter, then start growing again in spring.

By mid-June garlic will produce flowery tops that curl as they mature and ultimately straighten. These [scapes](#), also known as flower or top set, are a savory delicacy, and should be removed to encourage more efficient bulb growth. Harvesting usually occurs in late June or early July when half to three quarters of the leaves turn yellow-brown. Carefully dig up each bulb. Do not pull - breaking the stalk can lead to rot. Tie 6 to 10 garlic together in bundles and hang to cure for 4 to 6 weeks in a shaded, dry, and preferably drafty area.



Photo: R. Salinero.unsplash

Warmer climates may need a cold period to trigger sprouting. Hardnecks need 3 to 4 weeks of 45-50 degree coolness. Over-winter with manure to protect from heaving. Do not put allium waste in compost.

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*Janice Morrison, Dip.OH, Cape Breton horticulturist established a horticultural therapy program at Cape Breton Regional Cancer Centre in conjunction with oncology and social work staff, in support of the cancer journey for participants. Lesley Fleming, HTR examines applications of HT/TH for a range of populations, plants and programs.*

## Garlic Four Ways

By Lesley Fleming, HTR

Easy to grow and offering multiple health benefits, garlic can be used in a variety of ways:

Garlic Foot Bath: Used as cold prevention or at the onset of a cold, fill a large pot with boiling or really hot water, and add 10 peeled cloves of garlic. Soak feet at whatever temperature you can stand.

Garlic, Lemon and Cayenne Pepper Cold Killer: As the name suggests, this recipe can boost immunity from colds. Drink it down – 1 quart water with 1 minced clove garlic, juice of 1 lemon, sprinkling of cayenne and chunk of minced and juiced ginger. Some prefer garlic tea, steeping it in hot water, sweetened with honey.

Garlic Shoe Trick: Place a peeled garlic clove between sock and shoe or coat the soles of your feet with olive oil and smashed garlic. If you have garlic breathe its working.

Cleanse Regiment: Raw garlic may help eliminate yeast and bad bacteria, along with enhancing fat burning, lower cholesterol, regulate blood sugar, and reduce bowel gas according to [Alejandro Junger, MD](#). The raw flavor can be intense, may cause a burning sensation, and/or bowel irritation so checking with your doctor may be advisable.

## Garlic Scapes

By Janice Morrison, Dip.OH

The scapes crop occurs In July followed by the fall harvest of bulbs. Much of the garlic North Americans consume is imported from China, where it is the scapes that are preferred. Purchasing from local farm markets provides the opportunity to buy both scapes and bulbs from local farmers.

Harvest scapes once the curl has formed in the stalk but before the bloom has opened. Once cut they will keep in the fridge for up to six weeks. They can be steamed or roasted in olive oil and balsamic vinegar. Chop them up and add to stir fries and salads. Or make pesto.

### Roasted Garlic Scapes with Parmesan

25-30 scapes	2 T olive oil
1/3 cup grated parmesan	fresh ground pepper
lemon zest	

Preheat oven to 375. Line a rimmed baking sheet with parchment and lay the scapes evenly across. The blossom end can be removed or left on for presentation. Drizzle with oil. Sprinkle the cheese, pepper and lemon zest on top. Roast for 20 – 30 minutes. Be careful not to over roast. The scapes should be tender but not too scorched. This can be served as a hot appetizer or a side veggie dish.

### Garlic Scape Pesto

10 scapes, cut into 2” pieces	1/3 cup grated parmesan
1/3 cup olive oil	1/3 cup ground pistachios
fresh ground pepper	

Place all ingredients in a food processor and blend until smooth. Almonds or pine nuts can be used to replace the pistachios. The pesto freezes well and can be added to pasta sauce, minestrone soup, mayonnaise or Greek yogurt as a sandwich spread. Some people find it very garlicky on its own when used on crackers as an appetizer, but if mixed with goat cheese or cream cheese it will be milder in flavor.

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## HT Activity Plan – Growing Garlic

Text by Lesley Fleming, HTR & Janice Morrison, Dip.OH

Photo by K. Thamel.unsplash



Materials  
variety of garlics  
hummus ingredients  
potting medium  
containers & gloves

**ACTIVITY DESCRIPTION:** Participants will propagate & grow garlic over a 10 month period

**THERAPEUTIC GOALS:**

Intellectual: learning about the stages of plant development from planting to harvest

Social: discussing nutritional benefits of garlic & research on its role in cancer prevention

Physical: fine motor skills, gustatory sensory stimulation

Spiritual & Emotional: concepts of self-care, healthy lifestyle

**STEP-BY-STEP PROCESS:**

1. Leader presents several varieties of garlic (bulb) to group, to examine/compare, smell and discuss the history of this plant including nutritional and healing properties.
2. Group makes several flavors of hummus using fresh garlic.
3. Each participant plants several garlics in container, to be nurtured at home or transplanted into home garden.
4. On-going discussions, observations of garlic growth (with a sample at program delivery site & home gardens) occurs over the 10 month growing season.
5. For programs with shorter duration, activities can include cutting and cooking pre-planted garlic scapes or harvesting.

**APPLICATIONS FOR POPULATIONS:** This activity is appropriate for most populations and can be done indoors or outdoors. A focus on the nutritional value may be particularly appropriate for some groups.

**SAFETY CONSIDERATIONS:** Participant sensitivity to garlic and edible ingredients should be determined prior to activity. Excessive consumption of garlic can cause some side effects, in addition to strong breath and body odor. Allergies to garlic can range from irritation to nausea. Garlic can interfere with some prescription drugs. Pregnant women, people about to undergo surgery and those using blood thinners may want to avoid consuming raw garlic. For cancer populations or those with compromised immune systems, sterilized soil-less potting medium and gloves should be used.

**NOTES OR OTHER CONSIDERATIONS:** Options for garlic activities shorter in duration than 10 weeks can include making and tasting garlic in hummus, planting garlic, or visiting a garden to examine garlic production. Extended projects can include: research on nutritional benefits of garlic, annual ritual of planting garlic crop, Halloween garlic-vampire folklore, braiding of garlic scapes, or garlic foot bath.

**REFERENCES/ RESOURCES:**

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HT Activity Plan form developed by Lesley Fleming, Susan Morgan and Kathy Brechner 2012, revised in 2018.

Series

## Plant Activities Using Garden Materials for Upcycling

By Lesley Fleming, HTR & Susan Morgan, MS

Photos by S. Morgan

Upcycling, defined as transforming waste material into something valuable and useful, provides an opportunity to be creative and environmentally sustainable while providing therapeutic activities, symbolic and literal, within a treatment plan or other programming. Distinct from recycling, upcycling materials can find new life. This allegory resonates with people-plant programming on many levels. Ample materials for upcycling activities can be found in most gardens.



**Plastic plant containers** – Upcycle cleaned containers for use as workshop/classroom pails to hold handouts and other materials; paint and add twine handles for carrying/collecting items. Other uses - starting new plants, use as filler in large garden planters to reduce soil volume, or use other plastic containers like ketchup bottles to make hanging bird feeders.

**Plant husks** – Corn husks can be used to make dolls, wreaths, paintbrush material, Thanksgiving turkeys, party favors, Christmas trees, flowers and garlands. Borrow ideas from Pinterest. [Plant husks](#) offer great textural materials, particularly for fall activities when there is ample availability.

**Metal shovels, tin cans and gears** – Make [masks using old shovel heads](#) with hair made from mops. Can these reflect the mood of participants? Other garden art using metal – shovels filigreed with lacelike patterns, [tin man from large oil cans](#) (Legacy Health example), [tin can flowers](#), gears as decorative items, and signage. Sharp edges will be a safety issue for most special populations.

**Fence pickets** – Good for woodworking-inclined participants, use weathered fence pickets for small wood craft activities, such as nature sensory boxes, bird feeders with green roofs, garden signs, and more. Inspect wood for nails and splinters prior to use.

**Pallets** – Great to use for teenagers, group activities, physical rehabilitation (hand strength/grip, movement from standing position) and those who like to build things - [old pallets](#) can be made into chairs, tables, tools storage, standing herb planter, benches, bike stand, and murphy bars for gardens or homes. Pallets can also be used for fencing. Double check pallets for structural integrity, splinters, and nails for safe use with various populations.

**Hoses** – Repurpose [hoses](#) to make rugs, garden bed edging, tree protection and paths. Or use as an upcycled garden “tool” including grips for bucket handles, earwig trap, garden tool blade protector, or rain chain.

**Plant supports** – [Trellises](#) made from old shovels, rakes, door frames, tree branches, or pvc pipe from irrigation projects can add beauty and function to a garden.

**Damaged gutters** – Help the environment and neighbors by upcycling old eves troughing. Create a [vertical gutter garden](#) with these unusual plant containers that can be attached to deck fencing, railings, or garage walls. Drill holes for drainage. Check for rust and sharp edges prior to use.

**Glass jars, plates and bowls** – Artistically upcycle items into artwork for the garden, like flowers (attached to rebar), edging for garden beds, blue bottle tree, angels, rain chains, glass mosaic items, wildlife feeders or watering areas, and whimsical insects. Or use glass jars for traditional herb container, bug catcher, terrarium, and [DIY mosquito/hornet trap](#).

**Paint** – Chalkboard paint is especially effective when used on old wooden spoons or stakes upcycled as plant markers. Acrylic paint also works. Consider [painting a phrase on terra cotta pots... Dill with it](#).

Therapeutic-focused plant activities used for therapeutic horticulture or horticultural therapy can use the theme of upcycling in a multitude of ways. Populations with mental health challenges can use the symbolic conversion of materials to productive items as a metaphor for changing eating disorders, substance misuse or other addictive behaviors. Veterans participating in HT/TH programs might find upcycling functional materials from gardens an intellectual challenge that is akin to mission driven, practical military tasks. LGBTQ individuals coping with stereotypes might enjoy painting phrases on garden pots or signs, *lettuce us be different* or other similar concepts. Programs at community gardens can foster community inclusiveness through a coordinated fencing project or building of outdoor furniture on site using discarded pallets with participation from several populations or groups. Finding new life in upcycled materials can be powerful and therapeutic, especially for individuals looking for a new purpose, hobby or perspective.



*Susan Morgan, MS presented at the American Horticultural Therapy Association's 2017 conference with a session titled Activities Reimagined. Her blog [Eat Breathe Garden](#) offers interesting activities with a range of materials, all related to plants. Lesley Fleming, HTR incorporates activities from her Artist Training Certificate into HT/TH programming.*



## Nature Programming at White Point Beach Resort

Text & photos by Wendy Coolen

White Point Beach Resort, located on the south shore of Nova Scotia, is committed to connecting guests with nature. Its property is nestled into woodlands, with ocean frontage, a lake and river estuary.

Nature plays a huge role in the dynamics of the property, and getting guests to experience nature is a top priority of resort management. From surfing, kayaking, and paddle boarding, to walking nature trails and enjoying a bee school demonstration, guests are encouraged to spend time outdoors and enjoy nature's beauty and health benefits. [Connecting with nature has been proven to be beneficial to physical](#), mental and spiritual well-being, never more evident or important than with Covid's impact. It seems natural to create programming that responds to this as interest in gardening and nature continues to grow.

[White Point](#) has long focused attention on outdoor activities. Since its inception in 1928 as a hunting and fishing lodge outdoor activities had originally included archery on the beach, croquet and water sports. Staff at White Point have been committed to providing guests with recreational and educational experiences with nature as a central focus. Sessions include weekly bee schools, with talks and demonstrations around the bee hives, seasonal [Piping Plover](#) beach walks to learn about this endangered shorebird and actually see them in their nesting habitat, along with garden walkabouts in the resort gardens discussing pollinators and plants. White Point is also a [monarch butterfly way station](#), so guests can see and learn about these butterflies when they arrive. Guest speakers are invited to present specific topics like geology, leading beach walks to identify specimens. Night sky viewing led by an amateur astronomer is very popular as well.

To keep young guests busy, the recreation and horticulture departments work together to create programming that is fun and informative while focusing on nature-based materials and learning. While many of the activities are geared toward children and young people, many adults join in as well, initialing assisting the younger participants, and then as full participants creating something all their own. It is the connection with nature and the freedom to play and create that appeals to people of all ages given the opportunity.

Two very popular activities are fairy gardens and bird feeder mobiles. Most of the materials for building these crafts are collected from nature on property with additional materials that are compostable, with a nod to environmental sustainability.





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The fairy gardens are built using cardboard food containers filled with soil. Trays of supplies are laid out to be used as desired - moss, bark, twigs, stones, sand, spruce cones, jute twine, and shells. In the initial session everyone copied the example exactly. Subsequent sessions begin with an explanation regarding construction, with amazing results. Every fairy garden is totally unique expressing each person's individuality. The little stories the kids create for their gardens highlight the spark nature provides igniting their imaginations. Comments from parents - they had never seen their child so focused on an activity. During the session staff discuss interesting facts about the natural materials being used. Old Man's Beard lichen (*Usnea* spp.), for example is an indicator of clean air with historical traditions of medicinal properties.

Bird feeder mobiles are made using branches from which participants hang various objects. These include cones and toilet paper rings coated in seed butter and rolled in bird seed, apple slice rings, and strings of cheerios and dried berries. Compostable jute twine is used as the thread. Typically there are more adults than children signed up for this event. Adults want to play and be creative too.

White Point has a new greenhouse with an area set up specifically for crafts and demonstrations. People always seem interested in what is growing in the greenhouse so staff have responded with plant show *and tell*, encouraging guests to identify greenhouse plants on the property (most plants are grown on site). New experiential nature activities have been planned for 2021 including flower petal mandelas, [kokadamas](#), Japanese moss planting balls, and spring seed plantings. The roster of activities include the ever popular rock painting, outdoor Mi'kmaq storytelling and demonstrations, a seasonal fishing derby for children, an outdoor Easter egg hunt and marshmallow roasts. Discussions are underway for a petting zoo in 2021, yet another connection to nature. White Point continues to be a champion for nature and the environment and realizes how important that connection is for people.



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Wendy Coolen is a trained horticulturist and landscape designer and is a graduate of Nova Scotia Agriculture College in Truro, NS. She volunteers for Birds Canada, leads dune grass restoration for the province, and works on living shoreline construction projects. She loves nature!

## Therapeutic Garden Tips for Home Gardeners

Text & photos by Lesley Fleming, HTR

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<https://ngb.org/2020/09/30/therapeutic-garden-tips-for-home-gardens/>

**What ideas can home gardeners borrow from therapeutic gardens?** These are the gardens, typically seen at healthcare facilities, “designed for use as a component of a treatment , rehabilitation, or vocational program...to meet the needs of a specific user or population...to accommodate participant’s goals and to facilitate people-plant interactions” ([American Horticultural Therapy Association](#), 2017). Defined as enabling gardens, they are used by horticultural, recreation, occupational and physical therapists working with elders, veterans, at-risk youth and other populations for physical rehabilitation, strengthening of limbs, and exercise regimens. Therapeutic gardens provide a plant-rich site for delivery of services addressing a range of health goals.

**Some therapeutic gardens are classified as restorative**, where the primary intent is to provide mental repose and restoration, distinct from physical healing. Meditation, contemplation, and sensory gardens fall within this category in Diehl’s framework for healing gardens (2013). Restorative gardens are used for example, with people who have experienced trauma, grief, [cancer](#), addictions or mental health challenges who benefit from cognitive, emotional or psychological restoration in passive, nature-focused environments (Fleming & Kirby, 2018).

**All types of therapeutic gardens seek to provide health improvements** be they physical or mental, and are recognized by [distinct characteristics](#). Garden design elements address specific health goals for those who will be using the garden. Therapeutic gardens used in healthcare settings may be used by multiple populations, or may be designed and used primarily by a single population - veterans, people living with dementia, or pediatric patients. Universal design and accessibility principles as well as evidence-based research guide therapeutic garden design (Cooper Marcus & Sachs, 2014; [Therapeutic Landscapes Network](#), 2020).

Therapeutic gardens offer ideas for home gardeners:

- Determine if a specific priority, health focus or function is desired, and whether these are aligned with types of therapeutic or healing gardens which can provide information/design specifics/ideas (i.e. sensory or sanctuary garden, physical exercise priority)
- Consider a professional garden designer experienced in translating garden elements into desired preference or function with enabling or restorative attributes (labyrinth for meditation, long views or winding paths used for contemplation gardens for example)



- Think about safety and accessibility; these may become crucial throughout life stages (raised beds, vertical gardening, ergonomic tools, wheelchair or walker friendly path surfaces)
- Create a plant-rich environment, incorporating preferences for edibles and/or ornamentals, avoiding poisonous or thorny plants but which are supportive of multi-function activities (gathering spot, shade, easy access, plants used for crafts and year-round color)
- Investigate healthcare facilities and their therapeutic gardens and therapeutic horticulture programs for loved ones who may be hospitalized, living in dementia care, hospice, or rehabilitation centers



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## Nine Ideas to Make Gardening Easier

Text & photo by Lesley Fleming, HTR

**1. Think about it...** what gardening activities give you pleasure- growing veggies, smelling fragrant flowers, pruning? What tasks are physically challenging, and do you really need to do all of them? Can you purchase compost, hire someone to trim the 10 ft. hedge or reduce flats of geraniums to 5 not 15?

**2. Get higher...** gardening at ground level is one of the most challenging aspects of gardening for many people. Options exist. Consider containers that can be placed at a comfortable height; window boxes, raised beds, hanging baskets, or [vertical walls of living plants](#).

**3. Fool around with tools...** try different garden tools and find the one that has the most comfortable grip, diameter, and weight... for you. Same for pruners and loppers. Look for composite materials, ratcheted, geared mechanisms and the [Arthritis Society's Ease of Use](#) commendations.

**4. Don't repeat yourself...** repetition of movement can cause strain on muscles and joints, taking the pleasure out of gardening. Consider breaking the task into smaller units over a period of days, practice using tools in either hand or better yet, use both hands.

**5. Sit around...** both active and passive gardening can be fun; listen to the birds, use the bench you built, share lemonade with a friend in the shade of your tree. Take time to smell the roses.

**6. To carry or drag...** that is the question. Dragging branches, leaves, or mulch on a tarp or using the newer garden carts—lighter and smaller with 4 wheel stability—can make moving materials less physically demanding than carrying items.

**7. Walk the walk...** for safety and [accessibility](#). Especially for those with balance or mobility issues, keep paths and walkways level and clear of clutter. This includes toys, hoses, and deteriorating surfaces. Consider railings, seating platforms or garden beds closer to accessible paths.

**8. High maintenance...** who needs it. With so many plants to choose from nowadays, consider plants that are perennials, dwarf varieties, colorful but compact, sterile and unable to invade. Read labels and select plants based on their maximum heights, reducing the need to prune as often. Limit high maintenance plants, using them as focal points.

**9. Green is good...** but can you [reduce your lawn](#)? Grass requires the most water, most effort, and probably the most chemicals in your yard. Making your lawn a bit smaller by enlarging beds, planting a tree or using permeable hardscapes will feel good and look good.



This article has been condensed from a 2013 article published on Partners for Care.Common Roots Urban Farm website.

## Repel Bugs With Herbs

By Lesley Fleming, HTR

Pests	Helpful Herb	Notes
flies	basil, tansy	plant near house entrances
mosquitoes	sassafras, basil, lemongrass	rub leaves on skin
ants	mint, tansy, pennyroyal	plant around perimeter and doors
fleas (pet)	pennyroyal	rub leaves on pet's coat
nematodes	French marigold	plant around tomato stalk
squash bugs	nasturtiums	plant around squash's main root
weevils	garlic	place cloves in problem areas
white flies	basil, nasturtium, marigolds	will also attract beneficial insects
aphids	marigolds, catnip, dill	plant around infected areas

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Photo: N. Martin

Series

## The Treatment Process: Therapeutic Activities

Text & photos by Lesley Fleming, HTR

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 will focus on each of the component parts of a treatment plan.

### The Treatment Process—Therapeutic Activities

The selection of therapeutic activities should be guided and narrowed by focusing on the individual's specific health goal. When clients participate in therapeutic hands-on activities delivered by trained professionals, they are “working”/having fun/undergoing treatment per their treatment plan. An example drawn from “Treatment Plans: Bringing Some Simplicity to a Complex Process” in e-book *Therapeutic Horticulture A Practitioner's Perspective* (Fleming, 2016) demonstrates the interrelatedness of each treatment component:

*Health Domain:* Social

*Short Term Goals:* Client will demonstrate cooperation in group setting in four treatment sessions prior to release

*HT Activity:* Participating in production line potting plants; each person fulfills a function

*What to Measure:* Client's ability to perform tasks cooperating with others, & free from disruption

Other therapeutic activities that could address this identified goal might include: harvesting produce from a vegetable garden, sharing tools cooperatively with two other people; painting a rain barrel taking turns painting; or loading plants onto trailer for upcoming plant sale working as a team of four. One of the strengths of HT is the modality's flexibility including the diversity of therapeutic activities suitable for achieving specified treatment goals.

Plant-based therapeutic activities are wide-ranging. No one activity is used exclusively for one specific health deficit/improvement, and the same activity can be used for different health goals depending on how the horticultural therapist delivers the treatment session. The traditional activities used in HT/TH, which continue to be effective and engaging include: soil mixing, planting, pruning, harvesting, and garden maintenance tasks. An unlimited number of activities can be used as primary therapeutic activity or as ancillary, opening or ending activities, appropriate for tabletop, greenhouse or garden delivery sites including the following creative plant-based activities:

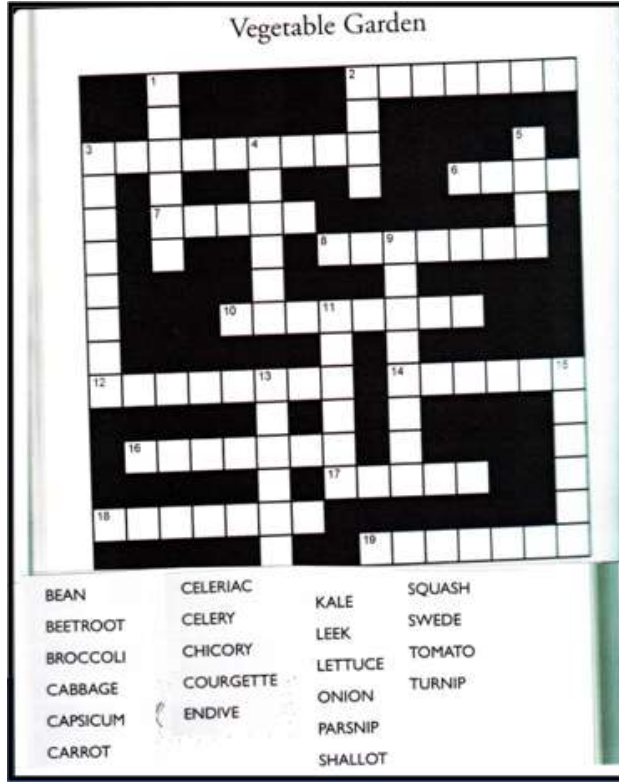
- ❖ creating & walking a labyrinth made with plants, paint or pebbles;
- ❖ pruning using bonsai theory & techniques (eliminating negative pieces—literally & symbolically);
- ❖ preparing & cooking root or other vegetables;
- ❖ using harvested produce to make human faces in nutrition-focused sessions;
- ❖ planting bulbs or seeds in containers; creating brightly painted craft stick as plant labels;
- ❖ building raised beds;



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- ❖ painting pots with chalkboard paint (and writing message with chalk);
- ❖ making leaf luminaries using glass or plastic jars;
- ❖ doing plant-related games (crosswords);
- ❖ making seed mancalas, terrariums, succulent wreaths, vertical wall planters, edible aquifers



Resources for plant-based activities (which can be used for therapeutic purposes):

Books: Hill, T. (2009). *The Everything Green Classroom Book*. Avon, MA: Adams Media

Hewson, M. (1994). *Horticulture As Therapy*.

Junior Master Gardener (2004). *Wildlife Gardener*. Texas Agricultural Extension Service.

On-line: [Eat.breathe.garden.com](http://Eat.breathe.garden.com)

Morgan, S. (2015). Therapeutic horticultural activities for the winter months. *Horticultural Therapy Institute*. Retrieved from <https://htinstitute.org/community/therapeutic-horticultural-activities-for-the-winter-months/>

Therapeutic Recreation (nd). Gardening, horticulture, nature crafts and recreation therapy. Retrieved from <https://www.recreationtherapy.com/tx/txnature.htm>

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

## Ten Top Notch Child and Youth Gardening Symposium Webinars

Compiled by Lesley Fleming, HTR

Photos by L. Fleming

Some really interesting webinars from the 2020 American Horticulture Society's Child and Youth Gardening Symposium are listed below. The titles are descriptive of the webinars delivered online during COVID-19 in lieu of the annual conference. The [2021 conference](#), scheduled for July 7-9, will be held virtually as well.

**Outside the Box: Extending School Curriculum Beyond Plant Science** The talk identified 5 centers for learning: nature building, literacy, measurement, weather station, and digging beds. Presenters: Amy Bowman, STEM Education Associate & Doug Vernon, Extension Assistant, [NCSU Plants for Health Institute](#) [https://www.youtube.com/watch?v=CJ\\_JnsvuG3c&feature=youtu.be](https://www.youtube.com/watch?v=CJ_JnsvuG3c&feature=youtu.be)

**Peace Education and Social-Emotional Learning in the Garden** Introduces [Global Gardens youth organization](#) as a model that uses inquiry-based learning in the garden touching on science, peace, health & environment. Worms, ecosystems, plant parts are used to promote social interactions. Presenters: Symon Hajjar & Kristsen Bailey, Global Gardens <https://www.youtube.com/watch?v=Z6CdcleJt2Y&feature=youtu.be>

**Integrating Animals into Garden Education** Gardens can include animals, and are part of many educational programs. One successful program is described offering insight into how to establish, maintain and deliver this type of garden education. Presenter: Emma Vetter, Agriculture Educator <https://www.youtube.com/watch?v=bGT8ds-xw-w&feature=youtu.be>

**Empowering Youth Leaders Through Vermicomposting** Using worm composting as the mechanism for developing leadership skills, One Cool Earth shares their replicable models and experiences. Presenter: Dylan Jones, Executive Director [One Cool Earth](#) <https://www.youtube.com/watch?v=AVluuGgojNY&feature=youtu.be>



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**Student-Led Permaculture Garden at University** [South Carolina] This example of collaborative community programming informs viewers about university level environmental action within an educational setting. Presenters: Andrew O’Flaherty, Office of Sustainability Garden Outreach Coordinator USC & Arlene Marturano, Director South Carolina Garden-based Learning Network <https://www.youtube.com/watch?v=csDdElvIKM&feature=youtu.be>

**Return of the Dirt Girls** Validating the use of gender specific programming, a California example is presented including pros and cons of such a model. Presenters: Dr. Carrie Stohl, The School Garden Doctor & Dr. Amanda Crump, Assistant Professor of Teaching in International Agriculture Development Univ. of California, Davis <https://www.youtube.com/watch?v=18mDeGHw5XA&feature=youtu.be>

**Complicating Categories and Moving Beyond Binaries: Diversity and Garden Education** Exploring categories, which can be both positive and negative, the webinar supports students’ understanding of [issues related to gender](#), disability, and race using the garden and garden setting. Presenters: Duke Gardens’ Kavanah Anderson, Education Program Coordinator & Kati Henderson, Youth and Young Adult Educator. <https://www.youtube.com/watch?v=6HdLtqUjA3k&feature=youtu.be>

**Garden Day Camp** Plant-themed activities for camps & classrooms– hamburger plant, food tasting, venus flytraps, butterfly metamorphosis, plant press and insects. Presenter: Dr. Shelley Mitchell, Associate Extension Specialist, Oklahoma State University [https://www.youtube.com/watch?v=M2c\\_\\_mpLk9s&feature=youtu.be](https://www.youtube.com/watch?v=M2c__mpLk9s&feature=youtu.be)

**Reduce, Reuse, Recycle: Inspiring Repurposing Materials in the Garden** A bonanza of ideas with the focus on repurposing included building large creative structures based on actual school programs. Presenters: Sarah Pounders, Emily Shipman, Katie Simmons <https://www.youtube.com/watch?v=aqUJ9ZshgbY&feature=youtu.be>

**Crowdfunding Successes (and Challenges) for Garden-Based Education** Multiple sites for crowdfunding are presented, with relevant tips for school garden projects. Presenter: Carrie Strohl, PhD <https://www.youtube.com/watch?v=z7WrTxFLzAU&feature=youtu.be>





## Resources Summer 2021



Photo: L. Fleming

**The American Society of Landscape Architects (ASLA)** is a rich resource with several platforms – *Landscape Architecture Magazine*, *THE DIRT*, *The Field*, videos, & Practice forums offering content covering a wide array of topics. <https://www.asla.org/>

**Diversity, Equity, and Inclusion News from *Landscape Architecture Magazine* and ASLA:** 60 articles including [Wary of Change](#), [Into an Era of Landscape Humanism](#), [Planting Civil Rights](#), [Gaullaudet University Designs for the Deaf Community](#), and [What do Seniors Need in Parks?](#) <https://www.asla.org/ContentDetail.aspx?id=56446>

**THE DIRT** weekly blog covers topics on built and natural environments. <https://dirt.asla.org/>

### Contemporary Flower Art

<https://dirt.asla.org/2015/03/03/contemporary-flower-art/>

### Designers of Color on How to Combat Erasure

<https://dirt.asla.org/2020/08/15/to-stop-erasing-communities-of-color-co-design-with-them/>

**The Canadian Society of Landscape Architects** publishes *Canadian Architect Magazine* and *A+Dwire* <https://www.csla-aapc.ca/landscapes-paysages/landscapes-paysages-magazine>

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To receive current or back issues of *Digging In* contact [NSHHortNetwork@gmail.com](mailto:NSHHortNetwork@gmail.com)



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Gardening with People Living with Dementia, Plant Safety & Toxicity

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