

# CULTIVATE

FLORIDA HORTICULTURE FOR HEALTH NETWORK

Fall 2022 Volume 2 Issue 4

[FLHort4Health@outlook.com](mailto:FLHort4Health@outlook.com)

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.

## CONTENTS

- 1 Feeding and Eating Disorders and Horticultural Therapy
- 6 Making Agua Fresca
- 9 Practitioner Tips: Marketing People-Plant Programs
- 11 Beekeeping Programs at Correctional Facilities
- 13 Cultivating Social & Therapeutic Horticulture in Spain



## Feeding and Eating Disorders and Horticultural Therapy

By Lesley Fleming, HTR & Kate Sampson, CTRS

Photos by L. Fleming, K. Hamkhor, I. Yunmai,  
N. Hamann & M. Spiske, Unsplash

Feeding and eating disorders are now understood to include a range of disruptive behaviors including – anorexia nervosa (AN), bulimia nervosa (BN), binge-eating disorder (BED), avoidant/restrictive food intake disorder (ARFID), purging disorder and other specified feeding or eating disorders. Research continues to tease out the pathology, psychobiology and epidemiology of feeding and eating disorders (FEDs). Researcher Hay suggests that “eating disorders [are] characterised by the internalisation of the thin ideal and extreme weight-control behaviours. In both, overvaluation of weight and shape – where such body image concern is of major or paramount importance to self-view – is a mandatory criterion.” (2020). Pinpointing specific characteristics across this group of disorders is challenging given the varying nature of each.

[Hornberger and Lane's systematic review of the literature](#) (1994-2013) provides a good overview of eating disorders (2021). Most often diagnosed in children and adolescents, with the mean age of onset

at 12 years old (Swanson et al., 2011), disordered eating also affects adults. Previous perceptions of FEDs have been proven incorrect. Eating disorders in fact exist across all racial and ethnic groups, in lower socioeconomic classes, with preadolescent children, males and females of all ages. Referencing the *DSM of Mental Disorders* 5<sup>th</sup> edition, and the more current understanding of eating disorders, there is a greater emphasis on behavioral rather than physical and cognitive criteria, along with inclusion of children who do not express body or weight distortion. There are a range of characteristics across the multiple disorders including: restricted caloric intake relative to energy requirements; intense fear of gaining weight; altered perception of one's body weight; repeated episodes of binge eating, self-induced vomiting, self-value overly influenced by body shape; and disruptive eating pattern not attributed to coexisting medical conditions. Hornberger and Lane noted that other factors may be related to eating disorders like weight stigma, being sexual minority youth (LGBTQ), chronic health conditions (diabetes, cystic fibrosis), dietary practices that may overlap or disguise as eating disorders like restrictive food consumption or obsessive-compulsive disorder (for some, vegetarianism may be obsessive compulsive disorder) (Robinson-O'Brien et al., 2009). Disordered eating attitudes and behaviors in males, previously viewed as leanness, weigh control, muscularity with purging using muscle-building supplements, substance abuse or comorbid depression, may have been undetected or misdiagnosed (Calzo et al., 2016).



This very complex health issue continues to be elusive. Psychological symptoms can be primary to eating disorders, comorbid psychiatric disorder, emotional regulation, and deficits in executive cognitive functioning though structural brain imaging studies to date have yielded inconsistent results (Allen et al., 2013). Eating disorders can be potentially life-threatening, impactful on every organ system with potentially serious medical complications

due to malnutrition, weight changes, and purging. On a positive note, research has indicated that most medical complications resolve with weight normalization (Golden et al., 2015).

Treatment principles across the eating disorder spectrum seek to attain healthy weight and growth trajectories. This includes developing a healthy relationship with food, body image, weight and shape, along with healthy nourishment and eating patterns. "Effective psychological therapies are the first-line in care and most people recover in the medium to longer term.... In children and adolescents, an atheoretical family-based treatment (FBT), and psycho-behavioral therapy, often provided through outpatient sessions, are the leading modality of care" (Hay, 2020). Multi-disciplinary teams of dietitians, pediatricians, psychologist, social worker, recreation therapists, and occupational/activity therapist may provide treatment addressing physical, nutritional and mental health co-morbidities. Interventions occur at day/outpatient clinics, residential facilities, and hospital-based stabilization

settings. Researchers and practitioners suggest that expanded prevention initiatives, better clinician awareness and more health services will better serve people with eating disorders.

### **Feeding and Eating Disorders using Horticultural Therapy**

Where does horticultural therapy and therapeutic horticulture fit into strategies addressing FEDs?

A small number of feeding and eating disorder treatment programs integrate horticultural therapy or therapeutic horticulture into eating disorder interventions. The breadth of health challenges across eating disorders requires a thorough understanding of each type of FED, and comprehensive physical and psychosocial assessment of each individual prior to delivering interventions.

General program goals for plant-based strategies involve growing and eating healthy food, establishing an healthy relationship with food, body image and eating patterns, adapting disruptive unhealthy eating patterns (purging, binging), emotional regulation, and positive leisure activities. Based on an individual's type of eating disorder and the severity of it, horticultural and recreational therapy will vary.



The treatment process, connecting health goals to therapeutic plant-based activities, might include: planting food crops, preparing harvested foods, sharing communal meals, understanding food security – addressing fears of contaminated food by experiencing seed to harvest cycle, nutrition counseling, and sensory based mindfulness activities using a garden environment. Interventions may be held in group sessions or one on one.

Examples of horticultural therapy/therapeutic horticulture programs shed light on how it can be used in treatment for eating disorders.

*The Eating for Life Program*, Nova Scotia Health, Halifax, NS is delivered at its out-patient clinic in a hospital setting, focused on developing interpersonal skills, self-esteem, routines and structures for healthy eating, and recognizing hunger cues. Its Leisure Group integrates relaxation and grounding techniques using mindfulness activities as sensory experiences to connect to the present moment while promoting here and now understanding, and indoor/outdoor gardening activities such as terrarium making, floral wreath making and outdoor activities like planting herbs and vegetables in raised beds. Some patients are treated as Adult Acute Care inpatients, with both services provided by psychologists, psychiatrists, therapeutic recreation professionals and nutritionists specializing in mental health (Fleming, 2012; 2015). Patients under 18 are typically treated at Halifax's IWK Pediatric Hospital which has a multidisciplinary specialty team that services youth identified as having either anorexia or bulimia nervosa. The team consults and collaborates closely with colleagues in pediatrics at the IWK hospital providing direct consultation and ongoing care for youth requiring inpatient medical care secondary to an eating disorder. Clinical care occurs not only with the youth (in inpatient and outpatient settings) but also directly involves immediate family members in the form of



psychoeducation, support, psychotherapy and training in the integral components of evidenced based behavioral and cognitive therapy used for treatment of this illness ([IWK Psychiatry Services](#), 2022).

Homewood Health Centre in Guelph Ont. (Canada) offers [specialized programs for mental health challenges including eating disorders](#). “In planting fruits and vegetables, patients with eating disorders learn about nutrition and also the importance of nurturing their bodies and soul.” Three registered horticultural therapists deliver the Homewood programs. (*Hospital News*, n.d.).

Baltimore Maryland’s [Sheppard Pratt Center for Eating Disorders](#) uses planning, planting and tending crops as therapeutic activity with its horticulture group in support of self-esteem, mood and social skills. (Haldeman, 2020).

Rogers Behavioral Health, a multi-location health organization, uses horticultural therapy in eating disorder recovery. Dr. Brad Smith comments “horticultural therapy is a natural exposure that can be used to reduce anxiety and fear. If someone has challenges with contamination, they might avoid getting dirty or exposing themselves to germs, bugs, and plants. We use horticultural therapy as part of their exposure hierarchy to have an activity that will continue to challenge them, resulting in fewer obsessions and compulsions” (2022).

Denver Colorado’s *Eating Disorder Foundation* offers a therapeutic garden, an in-person garden circle support group, and [gardening series workshops](#), the latter open to people anywhere on the mental health spectrum including those with eating disorders. Activities like composting, companion planting, native edible plants and food forests workshops foster a number of themes relevant to eating disorder challenges.



Very limited research on horticultural therapy used as a modality for people with feeding and eating disorders exists. Few plant-based programs also are available for this population. As the number of individuals with eating disorders continues to rise for several factors including the pervasiveness of social media influencing attitudes of body image, greater number of services will be required, particularly those using plant-based interventions which have been well-received by clients.

Allen, K.L. Byrne, S.M., Hii, H., van Eekelen, A., Mattes, E. & Foster, J.K. (2013). Neurocognitive functioning in adolescents with eating disorders: A population-based study. *Cogn Neuropsychiatry* 18(5):355-375. doi: 10.1080/13546805.2012.698592

American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. American Psychiatric Association Publishing.

Calzo, J.P., Horton, N.J., Sonnevile, K.R., Swanson, S., Crosby, R.D., Micali, N., Eddy, K.T. & Field, A.E. (2016). Male eating disorder symptom patterns and health correlates from 13 to 26 years of age. *J Am Acad Child Adolesc Psychiatry* 55(8):693-700. doi: 10.1016/j.jaac.2016.05.011

Fleming, L. (2015). Horticultural therapy programs that excite, excel and engage. *Guelph Enabling Garden*. <http://www.enablinggarden.org/wp-content/uploads/2015/08/Lesley-Flemming-Guelph-Enabling-Garden-Article.pdf>

- Fleming, L. (2012). Interview with Dr. Cheryl Aubie, Psychologist, Capital Health Eating Disorder Program. *Digging In* 2(1): 1-3.
- Golden, N.H., Katzman, D.K., Sawyer, S.M., Ornstein, R.M., Rome, E.S., Garber, A.K., Kohn, M. & Kreipe, R.C. (2015). Position paper of the Society of Adolescent Health and Medicine: Medical management of restrictive eating disorders in adolescents and young adults. *J Adolesc Health* 56(1):121-125. doi: 10.1016/j.jadohealth.2014.10.259
- Haldeman, E. (2020). Mental health movement – horticulture as therapy. *Baltimoreoutloud.com*. <https://baltimoreoutloud.com/wp/mental-health-moment-horticulture-as-therapy/>
- Hay, P. (2020). Current approach to eating disorders: A clinical update. *Intern Med J.* 50(1):24-29. doi: 10.1111/imj.14691 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7003934/>
- Hornberger, L.L. & Lane, M.A.; Committee on Adolescence. (2021). Identification and management of eating disorders in children and adolescents. *Pediatrics* 147(1):e2020040279. doi: 10.1542/peds.2020-040279
- Irish, J. (2019). Program example: Psychiatric, Rogers Memorial Hospital, Oconomowoc, Wisconsin. In Haller, Kramer & Capra (Eds.) *The Profession and Practice of Horticultural Therapy*. CRC Press.
- IWK Psychiatry Services. (2022). IWK psychiatry services. <https://www.iwk.nshealth.ca/mental-health/iwk-psychiatry-services>
- Robinson-O'Brien, R., Perry, C.L., Wall, M.M., Story, M. & Neumark-Sztainer, D. (2009). Adolescent and young adult vegetarianism: Better dietary intake and weight outcomes but increased risk of disordered eating behaviors. *J Am Diet Assoc.* 109(4):648-655. doi: 10.1016/j.jada.2008.12.014
- Smith, B.E.R. (2022). Implementing horticultural therapy in eating disorder recovery. *National Eating Disorders Association*. <https://www.nationaleatingdisorders.org/blog/implementing-horticultural-therapy-eating-disorder-recovery>
- Swanson, SA., Crow, SJ., Le Grange, D., Swendsen, J. & Merikangas, KR. (2011). Prevalence and correlates of eating disorders in adolescents. Results from the national comorbidity survey replication adolescent supplement. *Arch Gen Psychiatry* 68(7):712-723.

Lesley Fleming, HTR researched this population for the Florida Horticulture for Health Network's [Resource Hub](#). Kate Samson is a Certified Therapeutic Recreation Specialist (CTRS) working as a recreation therapist in Mental Health and Addictions specializing in treatment for patients with complex trauma and eating disorders. Kate has a passion for helping others find motivation to live a healthy life by providing access to leisure resources and strategy to navigate barriers to participating and pursuing opportunities for meaningful engagement.

This article is being published concurrently in epublications *Cultivate* (Florida Horticulture for Health Network) and *Digging In* (Nova Scotia Horticulture for Health Network).



## Making Agua Fresca

By Mitchell Hewson, HTM, LT, RAHP  
Photos by R. Kutsaev, B. Lark, K. Nguyen, Unsplash

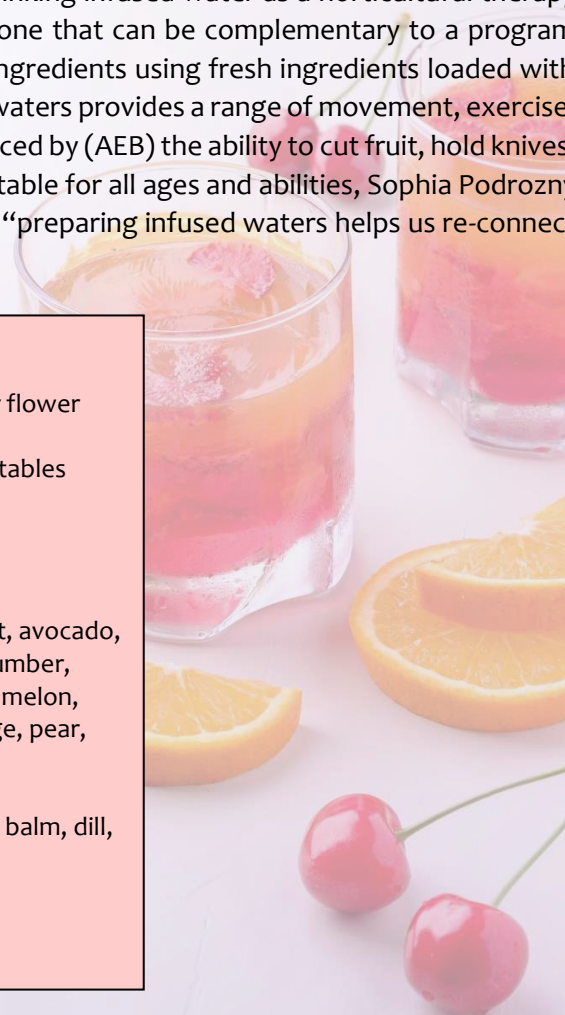
Thirst quenching infused waters can stimulate a client's palate and hydrate the body using fruit, vegetables, and herb. Traced back to Spanish cuisine, fruit waters or aguas frescas, are gaining in popularity as flavorful and healthy thirst quenchers. Infused waters can provide an alternative drink offering flavor, color, texture, and creativity for HT programming. For populations that have a tendency to become easily dehydrated; seniors, people on certain medications, or for anyone outdoors in hot temperatures, infused water may be one approach to combining hydration, nutrition, and horticultural therapy in a long, tall glass.

Proper hydration is important for maintaining a healthy body- boosting cellular energy production and lessening daytime fatigue (Benton & Young, 2015). Hydration impacts many body parts including reducing joint pain by providing synovial viscous fluid as a lubricant surrounding joints and making joint surfaces spongier (Bezci et al., 2015). Brain function can be impaired by even mild dehydration (Miller, 2015); hydration loss of 1-2% of body weight decreases cognitive performance (Pross, 2017) and impairs concentration and mood (Liska et al., 2019).

There are many therapeutic benefits of making and drinking infused water as a horticultural therapy activity: an activity focused on healthy food choices, one that can be complementary to a program growing edibles, and natural drinks without artificial ingredients using fresh ingredients loaded with vitamins and antioxidants. The preparation of infused waters provides a range of movement, exercise, manual dexterity, and hand-eye coordination as evidenced by (AEB) the ability to cut fruit, hold knives, and use of pincer grip to place fruit into blender. Adaptable for all ages and abilities, Sophia Podrozny RD, Clinical Dietitian, Homewood Health Centre states "preparing infused waters helps us re-connect to healthy food and practice food preparation skills".

### Tips for Making Agua Frescas

- wash thoroughly before using any fruit, vegetable, herb or flower
- use organic, blemish free, firm edibles avoiding waxy vegetables whose absorption is limited due to wax
- remove fruit stems, seeds, rough spots
- recommended fruits and vegetables include; apple, apricot, avocado, blackberry, black currant blueberry, cherry, Clementine, cucumber, elderberry, grape, grapefruit, kiwi fruit, lemon, lime, mango, melon, honeydew melon, watermelon, rock melon, nectarine, orange, pear, peach, plums, raspberry, strawberry
- herbs; anise, mint varieties, lavender, basil, cilantro, lemon balm, dill, sweet woodruff, lemon grass, tarragon herbs
- flowers; pansy, nasturtium, roses, hibiscus, daylilies





- Benton, D. & Young, HA. (2015). Do small differences in hydration status affect mood and mental performance? Nutr Rev. 73 Suppl 2: 83-96. doi: 10.1093/nutrit/nuv045
- Bezci, SE., Nandy, A. & O'Connell, GD. (2015). Effect of hydration on healthy intervertebral disk mechanical stiffness. J Biomech Eng. 137(10): 101007. doi: 10.1115/1.4031416
- Liska, D., Mah, E., Brisbois, T., Barrios, PL., Baker, LB. & Spriet, LL. (2019). Narrative review of hydration and selected health outcomes in the general population. Nutrients 11(1): 70. doi: 10.3390/nu11010070
- Miller, HJ. (2015). Dehydration in the older adult. J Gerontol Nurs. 41(9): 8-13. doi: 10.3928/00989134-20150814-02
- Pross, N. (2017). Effects of dehydration on brain functioning: A life-span perspective. Ann Nutr Metab. 70 Suppl 1: 30-36. doi: 10.1159/000463060

### Watermelon Basil Infusion

2 cups of seedless cubed or balled watermelon  
Handful of fresh purple basil  
One half gallon of fresh water

### Chocolate Fruit Delight

1 sliced apple 1 sliced lemon  
1 sliced orange 1 sliced pear  
Handful strawberries and chocolate mint

Place all fruits, berries and mint into a glass container, add one half gallon of cold water.

### Canadian Delight

1 sliced delicious apple 1 sliced Bartlett pear  
A few sprigs of lemon balm  
Pour water over fruit and chill.

### Lemon and Lavender Water

3 lemons, thickly sliced  
¼ cup fresh lavender  
One gallon of water  
Place all fruits and vegetables into a glass pitcher.

### Citrus Water with Cucumber Slices

1 sliced lemon 1 sliced lime  
1 sliced orange 1 sliced cucumber  
One half gallon of water



Mitchell Hewson, HTM, LT, RAHP is the Administrator- Horticultural Therapy in Practice, founding member of the Canadian Horticultural Therapy Association, and recipient of five international awards. Author of Horticulture As Therapy A Practical Guide to Using Horticulture as a Therapeutic Tool, Mitchell presently provides the only Horticultural Therapy on line study on mental health issues in Canada ([horticulterastherapy@gmail.com](mailto:horticulterastherapy@gmail.com))

Mitchell was the first Registered Horticultural Therapist to practice in Canada. He has served a pioneering role in the development of this important therapeutic modality, with a focus on psychiatric care. He has focused on specialized populations including those who suffer from: post-traumatic stress disorder, dementia, addictions and others.

"Mitchell has been at the forefront of the horticultural therapy profession for forty years. Influencing the thinking and practice of horticultural therapy as it has developed in the U.S. and Canada, he has contributed to the professional practice in many other countries including Japan, Taiwan, China, Russia, Singapore, France, Belgium etc. His writing, his programs and his willingness to train others sets him apart. It is his effectiveness as a therapist that is the foundation for all of his professional work and it is his compassion with clients who have mental health issues that is often mentioned by his peers with admiration and inspiration."





## Practitioner Tips: Marketing People-Plant Programs

By Lesley Fleming, HTR, Silvia Yoshimizu-Yee, MPA, Nancy Zola,  
Catherine Crowder, HTR & Gerry Sherman  
Photo by G. Sherman

Whether marketing your horticultural therapy skills and programs online or in-person, it is essential to have a game plan. This includes a concise, descriptive, engaging three minute elevator speech that can convey the essence of what horticultural therapy and people-plant programming can do, and the talents and expertise you are offering. Horticultural therapy practitioners share tips for marketing programs:

**Understand what makes people-plant programming, horticultural therapy and therapeutic horticulture exceptional.** Horticultural therapy and therapeutic horticulture (HT/TH) is relatively unknown to the general public and to health and human service administrators. Even less is known about how it is unique from other gardening activities, particularly those led by gardener volunteers. When attempting to distinguish it from other gardening activities, offer the following brief and clear distinctions.

- HT/TH programs elevate the typical gardening experience to one that is more meaningful, with therapeutic goals integrated into sessions, ultimately bringing about positive change to improve a person's quality of life.
- HT/TH programs are led by trained professionals who bring multidisciplinary skillsets to the program.

*Silvia Yoshimizu-Yee, MPA, HT  
Certificate, Private Contractor,  
California*



**Make contact directly with the most senior administrator you can get to** (face to face preferred) and leave a live plant or sample plant activity (tussie mussie) to remind the contact about the potential program. Physically knock on doors, use the telephone, mail a brochure and email..repeatedly.

*Lesley Fleming, HTR, Salvia Sage Services, Florida*

**One approach is to break down any barriers to accelerate the awareness and adoption cycle.** In business, it's expensive and time consuming to launch a new product category and establish a brand. In people-plant programs and HT/TH, the costs include educating the public, potential clients, as well as health care practitioners. And while HT/TH has been practiced for decades, it's still a new idea to most and therefore has low brand awareness. A related tip -

**Align with existing, well respected organizations.** This could be a local botanical garden or public park. This partnership arrangement offers the plant-based program broad exposure by tapping into the mature organization's existing marketing and social media platforms. In addition to the reach and

range, this provides credibility that is conferred on the nascent HT/TH program, from the affiliation with its seasoned partner.

*Nancy Zola, HT Certificate, Grounded Horticultural Therapy, Colorado*

**The most persuasive program proposals are those that address an organizational need.** For example, are they trying to improve community access to fresh vegetables? Do they need a therapeutic modality that can be taken outdoors? Is there a need for a wellness program that is unique and that can improve their online/external marketing presence? Fortunately, people-plant programs including HT/TH programs are very accessible and versatile. Understanding how an HT/TH program can address the organization's need(s) makes for a more compelling program offering. Therefore, it may be worth investing a bit of time to know your audience.

*Silvia Yoshimizu-Yee, MPA, HT Certificate, Private Contractor, California*

**Offer to do a sample session for free or for material costs,** or a 3 session package with a set fee for pre-determined number of participants, with feedback and commitment after this if the organization is satisfied with results. Show your stuff!

*Lesley Fleming, HTR, Salvia Sage Services, Florida*

**Networking! Someone knows someone who could benefit from your work.** Work with your contact and host a sharing day with their peers in other organizations. This worked well with activity directors in long-term care facilities and led to introductions to other activity directors, an introduction to non-profit care-giver groups, and to a network of executives working in the aging arena.

*Catherine Crowder, HTR, Seeds of Serenity HT, North Carolina*

**The initial contact or delivery of a one-off program raises the question - how do you stay top of mind with the organization** without "pestering" them to see if they have made a decision. While constant communication is important, make sure your messages have meaningful content and potentially a response mechanism. All push communications should have a relevant message and continue to educate on the value and benefits of HT.

*Catherine Crowder, HTR, Seeds of Serenity HT, North Carolina*

**Make it personal!** Show that you are not only competent but compassionate and capable of creating meaningful programming. Share why horticultural therapy is important to you. Share a short anecdote of an interaction with a client you will always cherish. Showing that you are human and understand how important the use of self is in horticultural therapy is sure to stick with whomever you are approaching, and will make them think of you as more than a new line item on their budget.

*Gerry Sherman, HT Certificate, NYU Langone Health & Hello Dahlia Horticulture, New York*

*Author/practitioner/contributors are members of a forum for regional horticultural therapy groups where a recurring topic focuses on expanding job opportunities. Tips from practitioners across the country come from: Silvia Yoshimizu-Yee - California Horticultural Therapy Network, Lesley Fleming - Florida Horticulture for Health Network & Nova Scotia Horticulture for Health Network, Nancy Zola - Rocky Mountain Horticultural Therapy Network, Catherine Crowder - Carolinas Horticultural Therapy Network, and Gerry Sherman - Mid-Atlantic Horticultural Therapy Network.*

## Beekeeping Programs at Correctional Facilities

By Weishunhua Zhang & Lesley Fleming, HTR



Beekeeping programs in correctional facilities can serve as natural and symbolic models reflecting communities that function cooperatively with eusocial behavior, and which also involve challenges, adversity, and rehabilitation. Mitigation and rehabilitation programs for bee colonies have been considered viable small-scale remedies for environmental distress addressing a challenging period affecting the planet's biodiversity. These can be provided by beekeeping programs in correctional settings.



Beekeeping programs for incarcerated populations are able to integrate the concept of rehabilitation. Inmates participating in these programs can reap the benefits of increased sense of purpose and belonging, increased opportunities for physical activity, increased contact with nature, and reduced stress levels. Participating in vocational training can help inmates gain valuable skills that can be used for job and business prospects upon release (McCray, 2015).

Beekeeping programs exist within the Canadian correctional system (Corrections Services Canada, 2019). A more significant number of programs are operational in the United States. *The Sustainability in Prisons Project* in Washington state is perhaps the best known of the programs, and its participation in research, and creation of a beekeeping program guide for correctional facilities highlight the success this type of programming can achieve (Sustainability in Prisons Project, 2022; 2017). It is also an example of a bee mitigation project where human effort and use of agricultural best practices can make a difference, where valuing the environment can positively impact people, bees, and the earth.

The sustainability of beekeeping programs in correctional facilities are typically supported through collaborations, with post-secondary schools delivering training and certification programs in support of the goals, and local beekeeping associations providing bee expertise. Commitment by senior correctional officials is also crucial for such programs.

### The Important Role Bees Play

Beyond the people-plant benefits of beekeeping programs, bees play an important role in the health of the planet and its inhabitants. Pollination is essential for maintaining life on the planet (DiDonato, 2022). Pollination enables plants to proliferate and is the process by which bees transfer pollen from one plant to another, either between plants of different sexes for fertilization, or between various portions of the same plant. Bees are among the most effective and efficient pollinators due to their rapidity in moving from one plant to another in a single day. Bee and other insect pollinators have contributed to the biodiversity and thriving ecosystems for plants and humans for millions of years. The ability of bees to prevent inbreeding also contributes to the survival of plants. These have been significant for increased food security and improved nutrition.



The importance of bees to agriculture cannot be overstated. They are responsible for the pollination of crops, the growth in yields, and the establishment of prosperous honey businesses. Because of bees' critical role in agriculture, millions of dollars are spent each year in leasing of hives. Pollination by bees is directly or indirectly responsible for producing more than one-third of the food consumed worldwide (Lawrence, 2015). For many types of fruits, nuts, and vegetables, pollination by bees and other insects is required. Pollinator extinction would have drastic impact on crops and related products resulting in food scarcities.

Bees play a big part in providing food in the form of honey. Honey, not usually consumed in sufficient quantities by most people for it to be considered a significant source of minerals and vitamins in the diet, does contain trace amounts of several nutrients. Nevertheless, it is important to note that honey contains many polyphenols, plant components beneficial to human health. It is an excellent source of antioxidants, providing raw honey nutrition, with antibacterial and antifungal characteristics supporting digestive health and positive effects on the brain. Honey can be used for throat lozenges or to suppress coughs, and for some, a substitute for prescription cough syrup medications (Sultana, 2016). Additional health benefits - honey has been proven to lower mucus production, possess antioxidant qualities, and can boost the release and production of anti-inflammatory cytokines, which are involved in the immune system's response to infections (Masad et al., 2021). Honey has antibacterial qualities generating hydrogen peroxide and reducing the production of biofilm, which help limit the growth of bacteria. Since the time of the ancient Egyptians, honey has also been used for treating wounds and it continues to be used for a variety of health-related purposes.

- Corrections Services Canada. (2019). From offenders to beekeepers: A first bee keeping initiative in Ontario. <https://www.lte-ene.ca/en/offenders-beekeepers-first-bee-keeping-initiative-ontario>
- DiDonato, S. & Gareau, B. J. (2022). Be(e)coming pollinators: Beekeeping and perceptions of environmentalism in Massachusetts. *PloS One* 17(3): e0263281. <https://doi.org/10.1371/journal.pone.0263281>
- Lawrence, T. (2015). Pollination and protecting bees and other pollinators. *Washington State University Extension*. [https://www.researchgate.net/publication/280884049\\_Pollination\\_and\\_Protecting\\_Bees\\_and\\_Other\\_Pollinators](https://www.researchgate.net/publication/280884049_Pollination_and_Protecting_Bees_and_Other_Pollinators)
- Masad, R.J., Haneefa, S.M., Mohamed, Y.A., Al-Sbiei, A., Bashir, G., Fernandez-Cabezudo, M.J. & al-Ramadi, B.K. (2021). The immunomodulatory effects of honey and associated flavonoids in cancer. *Nutrients* 13:1269. <https://www.mdpi.com/2072-6643/13/4/1269/pdf> <https://doi.org/10.3390/nu13041269>
- McCray, R. (2015). Beekeeping gives prisoners a sweeter future. *Takepart*.
- Sultana, S., Khan, A., Safhi, M.M., & Alhazmi, H.A. (2016). Cough suppressant herbal drugs: A review. *Int. J. Pharm. Sci. Invent.* 5(5): 15-28.
- Sustainability in Prisons Project (2017). *Beekeeping in Prisons Program Guide*. <http://sustainabilityinprisons.org/wp-content/uploads/2017/02/SPP-Beekeeping-Program-Guide-2-3-17.pdf>
- Sustainability in Prisons Project. (2022). Beekeeping & pollinator programs in prisons. The Evergreen State College and Washington State Department of Corrections. <http://sustainabilityinprisons.org/spp-programs-in-wa/conservation/beekeeping-programs/>

Weishunhua Zhang is a second year MLA student at University of Florida with an interest in landscape architecture and therapeutic landscapes, their connection to nature and their role in the healing process. Lesley has delivered therapeutic horticulture programs at a county jail in Florida.

## Cultivating Social and Therapeutic Horticulture in Spain

By Leila Alcalde & Eva Creus

Photo by Asociación de personas con discapacidad Virgel del Pilar

*Leila Alcalde and Eva Creus, cofounders of the Spanish Association in Social and Therapeutic Horticulture ([La Asociación Española de Horticultura y Jardinería Social y Terapéutica](#), AEHJST), describe how social and therapeutic horticulture is gaining recognition in Spain and other Spanish speaking countries.*

Social and therapeutic horticulture (STH) is relatively new in Spain, although healing gardens in Spain date back to the 19th century (Cambra-Aliaga, 2017). Founded in 2018 by several STH professionals, La Asociación Española de Horticultura y Jardinería Social y Terapéutica (AEHJST) is a volunteer-run non-profit organization driven by the commitment to raise awareness and to collaborate to develop this field. The association provides training in social and therapeutic horticulture, consulting services and support for various projects across the country.

AEHJST offers two levels of training for those interested in starting a new professional career in STH or in improving their knowledge services they offer. First, is a 20-hour introductory course supported by the Occupational Therapy Department of the Autonomous University of Barcelona. The second, more advanced training offered by the Association itself, is 45 hours long. The instructors are trained in different disciplines, to respond to the varying needs of the STH projects. Professionals like psychologists, occupational therapists, healing garden designers, social workers or educators are the typical students in the courses. Approximately 100 students have been trained to date. There has also been an increase in research and publication in the field, including a book titled *Conéctate con la Naturaleza* by Jabier Herreros.



Most of the garden projects in Spain utilize horticulture to promote social inclusion and to tackle isolation. Clients with mental health issues, learning difficulties or elderly people are the predominant

participants. Social and therapeutic horticulture is also growing in hospitals and care homes. Among these projects, some have been running for more than 10 years, such as [Associació La Muralla](#), a social club for individuals with mental health issues, and their families. Data is collected by AEHJST through the project *Mapeo*, an initiative that seeks to create a network of professionals and projects in Spain that use horticulture to improve the life of others. STH is gradually gaining recognition in Spain, with STH practitioners being invited to participate in various national and international talks. In 2020, AEHJST got in contact with other practitioners and STH associations in other Spanish speaking countries. The first online event called *Savias Conexiones* has been popularly followed on Instagram from people in Peru, Puerto Rico, Ecuador, Chile, Argentina, Mexico, Costa Rica, Colombia, or Guatemala. As social and therapeutic horticulture is not well known in these countries, the event had a positive impact and helped to lay the foundations for future collaborations. It has also led to building a network among professionals and projects in these countries. Universities in Argentina, Puerto Rico and Colombia have organized four congresses on this topic since then, showing their interest in this career path, as well as supporting pioneering STH practitioners as therapeutic professionals.

This active communication with other associations and professionals has involved the European network as well. In September 2022, the first meeting will take place in Germany organized by [Internationalen Gesellschaft Gartentherapie e.V.](#) STH professionals from countries like France, Italy, Belgium, UK and Czech Republic will explore how to collaborate in different areas. AEHJST has also been in contact with colleagues in Asia and Australia.

Along with their efforts to promote training, books and other educational resources in Spanish, AEHJST has made the commitment to advance research in this area. Most of the scientific studies are published in English, this being a barrier for many Spanish speaking practitioners. AEHJST's role in promoting social and therapeutic horticulture includes being a reference for education and research in the Spanish language, in Spain and beyond.

Cambra-Aliaga, A. (2017). El proceso de profesionalización de la Terapia Ocupacional en España (1961-2007) [The professionalization process of occupational therapy in Spain (1961-2007)]. [Doctoral thesis, University of Zaragoza].

*This article is fifth in a series on Horticultural Therapy Worldwide.*

*Leila Alcalde is a HT practitioner (Coventry University, 2016) based in London. She works for Share Community supporting adults with learning disabilities, on the spectrum and/or with mental health issues. She has also worked in Spain and Germany.*

*Eva Creus is a veterinarian educator who is currently taking her Undergraduate Certificate in Horticultural Therapy at the University of Florida. She is a private contractor practitioner who delivers STH programs in Spain, mainly for older adults and people living with dementia.*



**Florida Horticulture for Health Network**

To receive *Cultivate* contact [FLHort4Health@outlook.com](mailto:FLHort4Health@outlook.com)



[www.facebook.com/FloridaHort4Health](https://www.facebook.com/FloridaHort4Health)

Upcoming Issue of *Cultivate* Winter 2023:  
Gardening's Social Side

Editor in Chief Lesley Fleming, HTR

Editor Siang Yu Tham

Contributors

Kate Sampson, Mitchell Hewson, Silvia Yoshimizu-Yee, Nancy Zola,  
Catherine Crowder, Gerry Sherman, Weishunhua Zhang, Leila Alcalde, Eva Creus,  
K. Hamkhor, I. Yunmai, & N. Hamann, M. Spiske, A. Mora Angulo, B. Jaglicic,  
R. Kutsaev, B. Lark, K. Nguyen, Unsplash,  
Asociación de personas con discapacidad Virgel del Pilar

Products, services, references, and medical research contained herein are intended for informational purposes only and do not imply endorsement or practice by FLHHN. Website URLs may be changed without notice. Original and creative material is considered the intellectual property of FLHHN. We respectively request credit for reprinted articles.