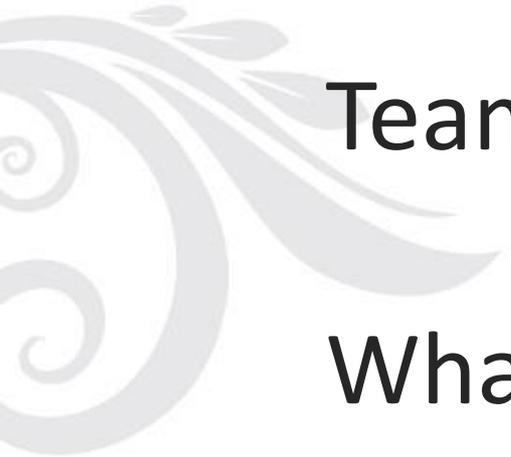




# What is Therapeutic Horticulture?

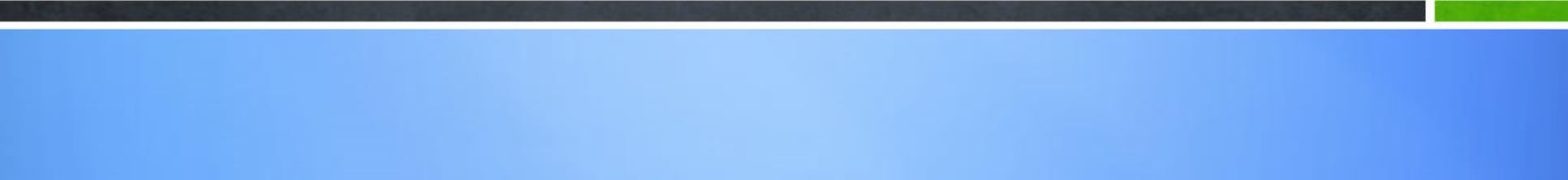
...and how can it support the work that I do?



## Team Discussion:

What benefits have you personally experienced from interacting with plants?

What other benefits exist?



# Understanding the Benefits

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- Horticulture therapy has been widely promoted over the past few decades, although we have discussed that it has been around for much longer
- Many publications, but relatively few quantify effectiveness (Sempik et al., 2003)



# Gardeners Know the Benefits

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- Gardeners are aware of the benefits
- Philadelphia: Why do you garden? (Blair et al., 1991)
  - 144 gardeners interviewed
    - recreation (21%)
    - mental health (19%)
    - physical health and exercise (17%)
    - produce quality and nutrition (14%)



# Why Should We Care?

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- What are some of the major health issues that face our society at present?
  - obesity
  - diabetes
  - cardiovascular diseases
  - cancer
  - mental health and wellbeing
  - dementia
  - stress
  - depression
  - substance misuse
  - harmful behaviors associated with some of these conditions



# In General: Physical Health

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- Horticultural activities can...
  - Reduce obesity risk and improve attitudes about healthy eating
  - Reduce physical pain and help with recovery from surgery
  - Cope with challenging circumstances – cancer or living with chronic illness (asthma)



# In General: Mental Health

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- Horticulture activities can...
  - Provide social interactions and community cohesion
  - Reduce stress occurrences and severity
  - Reduce reliance on medication, self-harming behaviors, and visits to psychiatric services
  - Improve alertness, cognitive abilities and social skills



# In General: Mental Health

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- Horticultural activities can...
  - Alleviate symptoms of Alzheimer's disease – agitation and aggression
  - Provide manual activities for individuals who are drug or alcohol dependent
  - Help with distress management in challenging life circumstances (i.e. hospice)



# Horticulture Therapy

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- Horticultural therapy is a clearly defined treatment procedure
  - Focus on horticultural or gardening activities to treat a specific problem in a patient
  - The treatment has a goal that can be measured and evaluated
  - Overseen and delivered by a certified professional



# Reducing Physical Pain

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- Use horticulture to reduce chronic pain or discomfort in patients (e.g. Park et al., 2008)
- Gardening as a tool to cope with pain from cancer (Unruh, 2004)



# Rehab and Recovery

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- In rehabilitation after illness or trauma (i.e. strokes), horticulture has been documented to improve:
  - motor skills
  - speech skills
  - cognitive skills (Söderback et al., 2004)
- Used to benefit cancer survivors (Eunhee, 2003)



# Dementia

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- A growing population in Wisconsin
- Horticultural therapy has been documented to:
  - alleviate the symptoms
  - improve quality of life
  - improve cognitive functioning (e.g. Yasukawa, 2009)



# Inmates

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- Horticultural therapy improves psychosocial functioning
- In follow-up studies, Rice and Lremy (1998) found:
  - lower depression in subjects who had emotionally detached mothers
  - reduced substance misuse
  - a sustained desire for support

# Therapeutic Horticulture

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- Engaging groups, or individuals, in practical activities with positive outcomes.
  - Individuals may have a disability resulting in being excluded from social situations or from work.
  - Examples: offenders, socially excluded groups like recent immigrants or refugees, or individuals dependent on drugs or alcohol
- Not built specifically in to a recovery plan, but does provide individual benefits



# Green Spaces

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- Besides the activity of gardening, viewing and engaging in green space (with plants) has positive effects on mental health and stress.
  - Improve productivity at work (Lohr et al., 1996)
  - Reduce well-being and opportunity to recover from stress (Pretty et al., 2007)
  - Neighborhood greenness = mental health (Sugiyama et al., 2008)
  - Symptoms of ADHD relieved by green space (Kuo and Taylor, 2004, many other studies with children)



# Happiness

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- Gardening provides feelings of achievement or success
- Completing a physical task can provide contentment and relaxation
- The rhythm of the gardening year and recycling of resources may improve wellbeing
- “Those who are involved in gardening find life more satisfying and feel they have more positive things happening in their lives than those who are not” (Blair et al., 1991)



# Stress

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- Globally, stress and stress-related illnesses are on the rise.
- Physically:
  - increased muscle tension
  - increased blood pressure
  - increased pulse
  - increased sweat gland production
  - increased production of adrenalin and hydrocortisone
  - reduced digestive system activity
  - aggravates many illnesses (i.e. cardiovascular diseases, high blood pressure, depression, anxiety, thrombosis, digestive problems, chronic fatigue, aches and pains, allergies, increased risk of infection, mental illnesses)
- How might horticulture activities reduce stress?



# Horticulture & Stress Reduction

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- By simply allowing views of a green space or a semi-natural scene (Aspirus ICU rooms)
- Botanical walks (Cooper Marcus and Barnes, 1999, Ulrich, 1999)
- Gardens (Mayer et al., 2008)
- Programs with plants (Pretty et al., 2007)



# Stress Relief

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- Gardening can promote relief from acute stress
- Stress-relieving effects of gardening vs. reading (Van den Berg and Clusters, 2011)
  - 30 patients with acute stress
  - Both groups saw cortisol decreases during the recovery period, however decreases were significantly stronger following gardening
  - Positive mood was documented after gardening



# Depression

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- 12-week therapeutic horticulture program in Norway (Gonzalez et al., 2010)
- Looked at change in depression severity, perceived attention capacity and rumination (brooding) in individuals
- Found a clinically relevant decline of depression ('Beck Depression Inventory') in 50% of the participants
- Maintained scores at 3-month follow-up

# Reach the 'Unreachable'

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- Horticultural activities reached groups of participants who would often be difficult to engage in activities
- Documented increased numbers of appropriate behaviors within these groups in care facilities (Jarrot and Gigliotti, 2010)



# Physical Benefits

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- What are they? (Park et al., 2008)
- Calorie calculators provide estimates of calorie expenditure for different gardening activities, indicating that garden work burns around 250 - 500 calories per hour, depending on the level intensity of the activity
- In the UK, the low-income diet and nutrition survey showed that men and women living in households that grew food consumed more fruit and vegetables (Nelson et al., 2007)



# Cancer

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- In an online survey:
  - 41 gardeners living with
    - 80% say that gardening helps reduce stress and anxiety, and helps take their mind off treatment
    - Reported that gardening also had a positive impact on their physical wellbeing



# Asthma

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- Sadako (2002) carried out horticultural therapy three times a week for children with intractable bronchial asthma who were hospitalized
  - Helped them recover their confidence through experience in growing plants from the beginning
  - Felt a sense of the seasons
  - Felt freedom from an ordered life in a ward
- Kamata (2008) provided horticultural therapy for long-stay asthmatic children. Improved:
  - Interactions with nature
  - Involvement with others
  - Education on growing plants



# So what can we DO?

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- Establish gardens
- Provide educational programming
- Gardening packs/“Garden in a Box”
  - 75% of gardeners living with cancer said that gardening during and after treatment helped them manage feelings of depression and sadness
  - Cancer support group provided gardening packs to encourage people to ease into physical activity after cancer treatment





***Thank you for your  
time today!***

*Interested in learning more?  
Please attend future lunch  
sessions, and spread the word  
about therapeutic horticulture  
in our communities.*



**8/24/18 | WHAT ARE YOUR NEEDS?**

**Discuss how UW-Extension can support YOUR  
needs through horticulture programming.**

**Please bring your lunch | All programs are scheduled NOON-1 PM  
212 River Drive, Room #5 Wausau, Wisconsin 54403 Tel 715.261.1241**

**An EEO/AA employer, University of Wisconsin-Extension provides equal opportunities in employment and programming, including Title IX and American with Disabilities (ADA).**