

NATURE AND PLANTS FOR BETTER BRAIN HEALTH

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What's on the menu



Explore evidence on how plants benefit us



Why is gardening so good for us



How can we incorporate more plants in our lives

Connection between plants and wellness long been recognized

- Knowledge of plants benefit to human health, especially to promote healing, has been around for hundreds of years
 - Earliest of dwellings – evidence of healing places found within nature
- Importance of nature in the healing process had waned in modern times only to find a new interest and subject of research
 - Gardening / interacting with plants reduce stress, help boost cognitive functions, and elevate mood

Plants Do That



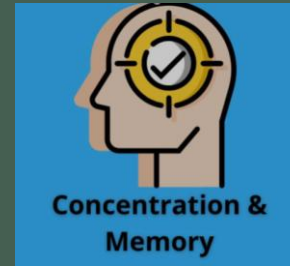
MN Landscape Arboretum

Study of Brains on Nature

- Renewed interest in the last 30 years to look at the nature-based health intervention
 - Engagement with nature is becoming increasingly recognized as a means to alleviate many of modern day health challenges such as obesity, depression, anxiety
- Evidence now points to benefits for
 - Physical health (e.g., lower prevalence of high blood pressure)
 - Mental health (e.g., lower prevalence of depression and anxiety)
 - Increased social wellbeing outcomes for people who spend time in nature

Nature deficit disorder - defined as what happens when people spend little or no time outside in natural environments resulting in physical and mental problems including anxiety and distraction

Concentration & Memory



- Being around plants helps people concentrate better in the home and workplace
- Studies show that tasks performed while under the calming influence of nature are performed better and with greater accuracy, yielding a higher quality result
- Being outside in a natural environment can improve memory performance and attention span by 20%

What the research is saying

Health and well-being benefits of plants. Ellison Chair in International Floriculture Teaching, Research, Extension and Service (Texas A&M AgriLife Extension) (ellisonchair.tamu.edu/health-and-well-being-benefits-of-plants/)

Learning



Research shows that children who spend time around plants learn better

- Natural environments improve
 - Focus
 - Concentrate
 - Engage more with their surrounding environment

Flowers Generate Happiness

- Flowers around the home and office greatly improve people's moods and reduce the likelihood of stress-related depression
- Flowers and ornamental plants increase levels of positive energy and help people feel secure and relaxed
- Research shows that people who spend extended lengths of time around plants tend to have better relationships with others
 - measurable increases in feelings of compassion; another effect of exposure to ornamental plants



Personal Well-being

- Studies show that people who spend more time outside in nature have better mental health and a more positive outlook on life
- Spending time in natural environments increases energy levels and feelings of vitality
- Access to parks and recreational activities is positively correlated with rates of physical activity, which improves mood and contributes to overall healthiness



Community Well-being

Shared green space enhances the overall well-being of a community

- Creating a sense of place
- Connecting people
- Enriching schools

Thriving communities are ones in which natural beauty is appreciated as a part of an overall high quality of life, which is why installing landscaping is crucial to both the success and happiness of the individual and the public



Reduce Stress

- Japanese and Finnish studies support nature's impact on lowering blood pressure and cortisone levels while improving mood, cognitive performance as well as feelings of vitality (The Nature Fix. 2017. Williams)
 - Anxiety and mental fatigue are reduced when we are outdoors because nature does not require our deliberate focus. When we see plants, our brains can process that information with little effort (Is Gardening Still Important to Humans? Yes, because gardens can heal! Illinois Extension)
- A NY study found that dementia patients participating in Horticulture Therapy program showed a decrease in behaviors associated with agitation
 - Sensory and tactile stimulation was important part of the planned therapy
 - Activities held daily and residents had therapy several times a week
- (Horticulture Therapy in Dementia Care Impact on Behavioral Symptoms, Physical and Cognitive Activities. 2003. NY State Department of Health Grants Program 2003-2005 Grant Funded Project)

Horticulture Therapy

- Horticultural Therapists are specially trained
- includes occupational therapists, physical therapists, counselors, hospice workers, nurses, spiritual care professionals, activity providers and others
- plant based nature approach, help participant(s) reach specific, measurable goals

Found to be very effective for treating people with dementia

- Have significantly less agitation
- Have much fewer behavior disturbances
- Experience much more emotional stability
- Spend significantly more time engaged in activity
- Spend markedly less time doing nothing

- Natural setting helped people relax, feel joyful, relieve emotional tension (relieving agitation)
- HT can entice people to spend more time being active
- Increased social engagement, decrease time of doing nothing
- Improve cognitive function - recall memories
- Tending to a garden helped increase social network and enhances creativity, self-esteem sense of ownership

Horticulture Therapy in Patients with Dementia: A Systematic Review and Meta-Analysis. 2019. American Journal of Alzheimer's Disease & Other Dementias

Review of
peer-reviewed
articles on
horticulture
therapy &
health benefits
with dementia
patients

- draw or paint, interact with musical instruments
- ergonomic tools for gardening
- experience differences in materials by touching or viewing, walking or smelling (multi-material space)
- different pathways between parallel bars for exercise on slopes, stairs and obstacle crossing
- serenity circle – semi enclosed space for a safe calm space

Enriched garden improves cognition and independence of nursing home residents with dementia: a pilot controlled study. 2021. Bourdon and Belmin. Alzheimer's Research & Therapy

Study
compared
Conventional
Sensory
Garden with
and
Enriched
Garden

Is Gardening Still Important to Humans?



The Benefits of Gardening

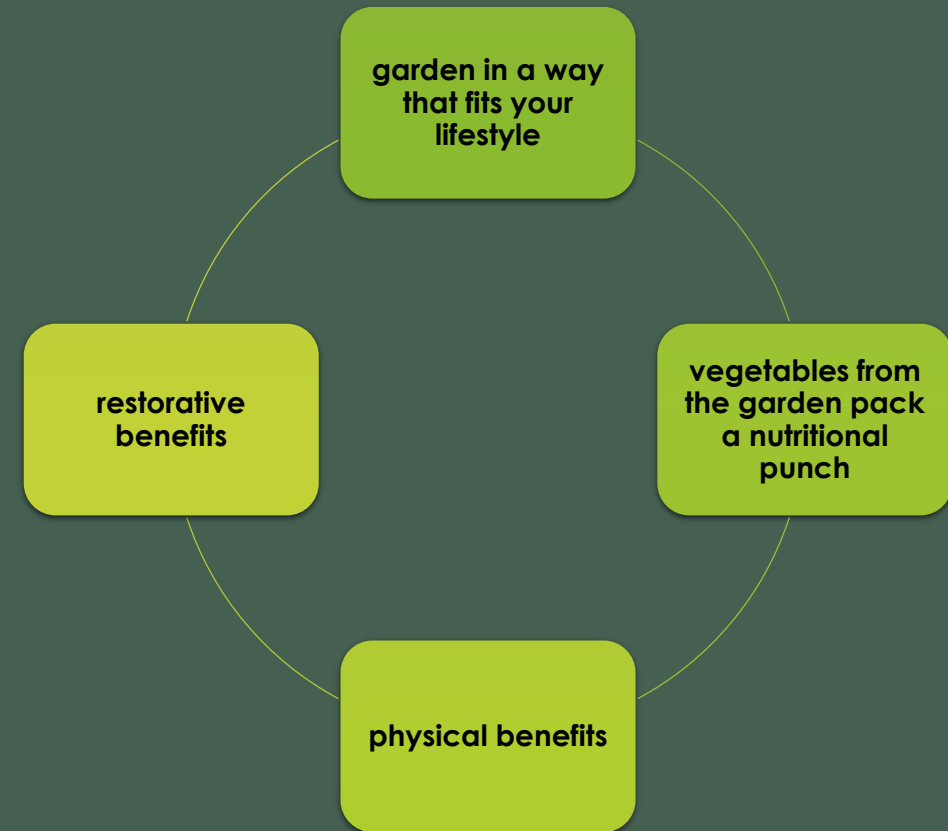
Studies show that people who spend time cultivating plants have less stress in their lives

- Plants soothe human beings
- Provide a positive way for people to channel their stress into nurturing - into something positive
- By helping them transform their stress into a more positive emotion, gardening also gives people an excellent coping mechanism for their daily frustrations





Plant a Garden





S. Mahr, UW Madison Extension



S. Mahr, UW Madison Extension

Containers
Porch
Patio
Steps
Indoors

Healthful Benefits of Growing Our Own Food

- Garden vegetables offer greater nutritional punch than items trucked hundreds or thousands of miles to store shelf
- Many studies report families with vegetable gardens just eat more vegetables
 - try a more varied selection of vegetables
- True for children as well - it seems even a finicky eater will sample his or her own garden creation



Physical Benefits of Gardening

Improves:

- balance
- range of motion
- builds physical endurance

Provides strength training

- one gallon of water weighs roughly eight pounds



Restorative Benefits of Gardening

- Repetitive tasks reported to be relaxing and offer mental restoration and focus recovery
- Report “stress relief” and therapeutic benefits from the emotional processing that comes while tending gardens and plants
- Gardeners listed mental benefits from gardening such as a sense of purpose, relaxing, and forgetting worries



Recuperative Benefits of Gardening

- Having greenery around helps us relax
- Interacting with plants can reduce stress
- Evidence from studies done in hospitals
 - just viewing gardens or greenery can greatly aid with a patient's recovery
 - triggered the creation of healing or relaxation gardens at hospitals, nursing homes and senior centers



Healing Gardens

- Mara Eckerling's definition (1996)
- "a garden in a healing setting designed to make people feel better"



S. Mahr, UW Madison Extension

Take many different forms and found in many different settings

- Psychiatric Hospital Gardens
- Children's Gardens
- Nursing Home Gardens
- Alzheimer's Treatment Gardens
- Hospice Gardens
- Gardens for the Visually Impaired
- Meditation Gardens
- Sensory Gardens
- Gardens for Horticultural Therapy



HOW CAN WE INTEGRATE
MORE PLANTS INTO OUR LIVES



S. Mahr, UW Madison Extension



S. Mahr, UW Madison Extension



Head into Nature

- Take a walk
 - Parks
 - Community gardens
- Sit and observe through all your senses
- Join a tai chi class that meets outdoors
- Go birding
- Become a nature photographer
- Pack a picnic
- Go fish
- Just look up and watch the sky



University of New Hampshire Extension

Forest Bathing

- *shinrin-yoku*
- Japan in late 1980s - Immersing oneself in a forest setting to take in its health benefits
 - Viewing nature, physically handling or touching natural objects, gentle multi-sensory stimulation and immersion in nature have a restorative effect on multiple aspects of mental and physical health
 - Certain evergreen trees release a phytochemical compound that, on its own in studies, has been shown to decrease adrenaline and heart rate



Virginia Cooperative Extension

Associated Benefits:

- Increase immune system function
- Reduce blood pressure and improve cardiovascular health
- Minimize symptoms of depression
- Reduce feelings of anxiety
- Lower feelings of stress and reduce cortisol and other stress biomarkers
- Increase mental relaxation
- Decrease physical pain
- Reduce feelings of psychological distress



THE NATURE PRESCRIPTION

**Horticulture-Inspired Program for People Living with
Dementia and Their Care Partners**
3rd Thursday of the Month
1:00 - 3:00 pm

Hands-on, nature inspired experiences that provide opportunities to stimulate the senses, enjoy social interactions, and provide physical activity while imparting a sense of purpose.

All supplies, materials, and refreshments provided.

Thursday, July 20, 2023

UW-Extension Eau Claire County
227 1st St W, Altoona

Create and learn about the importance of having bird feeders! When summer comes, and bird populations begin to nest and reproduce, this only becomes a more significant part of life. Giving wild bird's access to reliable, clean food sources actually helps the next generations of birds thrive!

Thursday, August 17, 2023

Aging & Disability Resource Center MOWs Kitchen
5061 US Hwy 53, Eau Claire

It's time to harvest the crops! Learn how to harvest, wash, and take home some goodies.

Thursday, September 21, 2023

Down to Earth Garden Center
6025 Amdt Lane, Eau Claire

Do you remember having terrariums when you were young? Come and create a small terrarium, take a tour of the garden center, shop, and stay for lunch at the café if you can!

Thursday, October 19, 2023

Leffel Roots Apple Orchard
2369 Maple Road, Eau Claire

Take a tour of an orchard, learn about and pick your favorite apples.

Thursday, November 16, 2023

UW-Extension Eau Claire County
227 1st St W, Altoona

Growing Succulents - learn how to plant and care for a succulent plant.

Thursday, December 21, 2023

UW-Extension Eau Claire County
227 1st St W, Altoona

Create and learn about Christmas Kissing Balls made with evergreen boughs.

Registration required **for each program**.
Register online at www.adrcevents.org or
call the ADRC at 715-839-4735



Extension Eau Claire County
University of Wisconsin-Madison

Participate
in Programs
from ADRC



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