

How Does Your Accessible Garden Grow?



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Session Overview

- Brief AgrAbility overview
- Strategies and resources for enhancing gardening accessibility
- Examples of technologies for accessible gardening

Please feel free to ask questions at any point

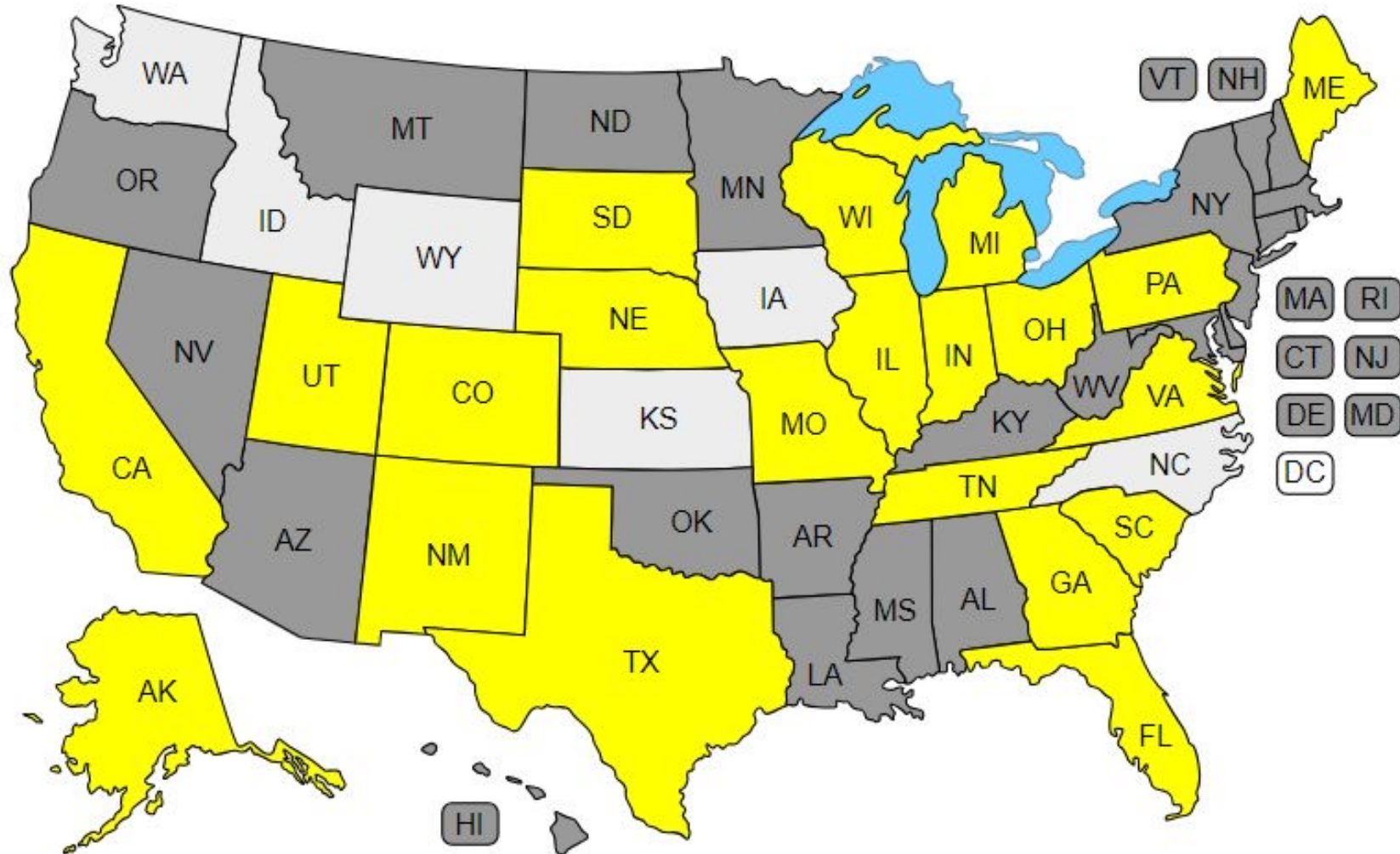
The National AgrAbility Project is supported by AgrAbility Project, USDA/NIFA
Special Project 2021-41590-34813



AgrAbility: USDA-sponsored program that assists farmers, ranchers, and other agricultural workers with disabilities.

- Partners land grant universities with disability services organizations
- Currently 21 state projects
- National AgrAbility Project led by Purdue's Breaking New Ground Resource Center
- Focus on agricultural production with application to gardening
- More information available at www.agrability.org

AgrAbility Projects 2024



What Disability Types Does AgrAbility Address?

AgrAbility addresses a wide variety of disabling conditions in agriculture, including, but not limited to:

- Amputation
- Arthritis
- Back impairment
- Deafness/hearing impairment
- Development disabilities, such as cerebral palsy or autism
- Disabling diseases, such as cancer or heart disease
- Mental/behavioral health problems
- Respiratory diseases
- Spinal cord injuries
- Stroke
- Traumatic brain injury
- Visual impairments

What Agricultural Operations Does AgrAbility Serve?

Just as disability is wide continuum, agriculture is also:

- Row crops: corn, soy, wheat, cotton, etc.
- Ranching
- Sheep and goats
- Dairy
- Produce, including organic
- Orchards
- Agritourism
- Niche markets, like llamas, herbs, etc.
- Floriculture
- Aquaculture
- Hydroponics
- Aquaponics
- Urban agriculture

AgrAbility Services/Priorities

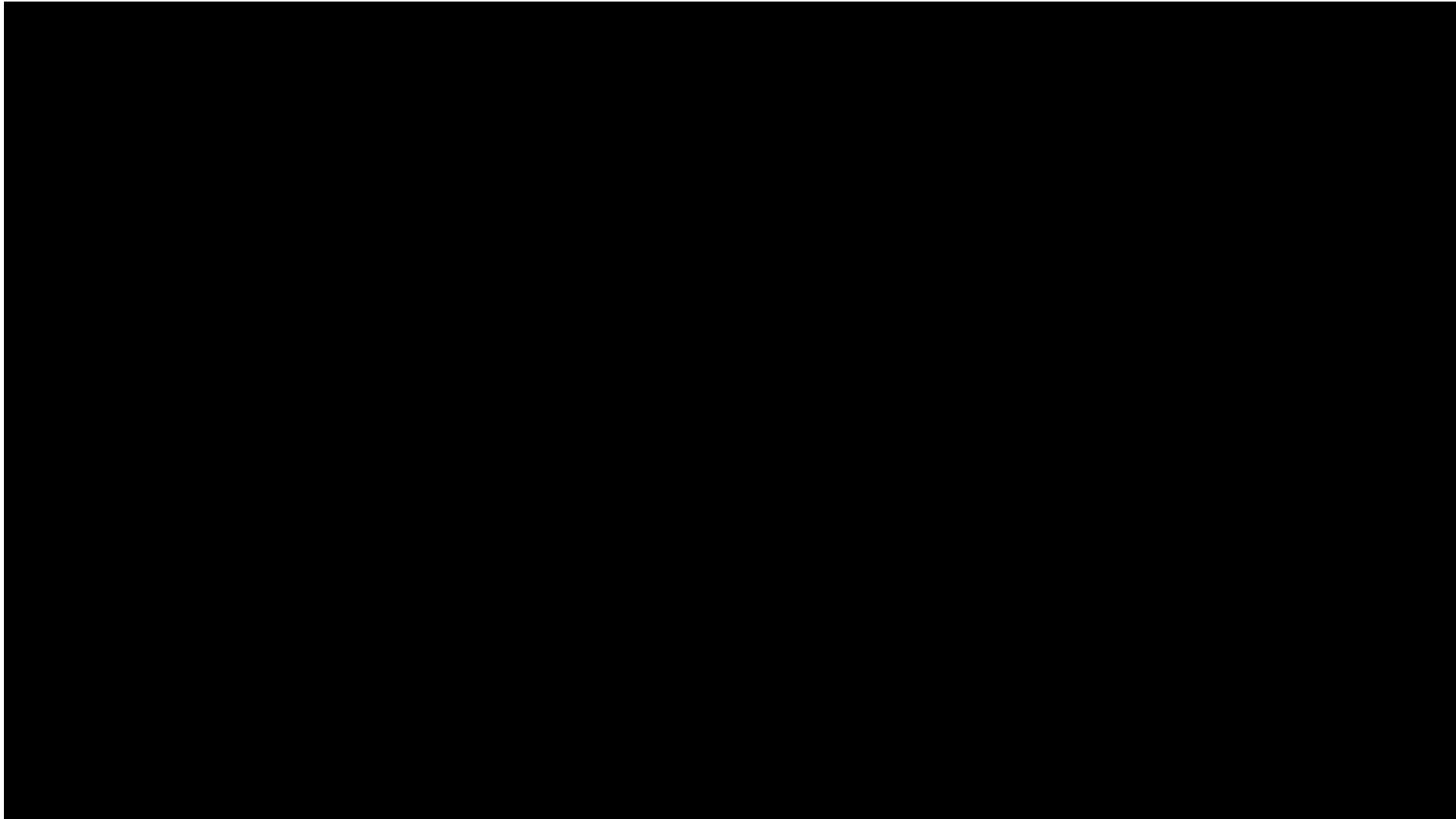
- **Education**
 - Workshops; resource development; online education
- **Networking**
 - Leveraging efforts with other groups; peer support
- **Direct Assistance**
 - Site visits; consultations
- **Marketing**
 - Public awareness activities and materials



What Does AgrAbility Not Provide?

- Direct funding to AgrAbility clients
- Equipment
 - Most funding for assistive technology comes through state vocational rehabilitation systems
 - www.agrability.org/funding-assistance

Laurie Hayn – Plymouth, IN



Questions about AgrAbility?

Making Gardening More Accessible

- The importance of gardening
- Garden planning & design
 - Individual Gardens
 - Community Gardens
- Assistive technology

Importance of Gardening: Popularity

- Some sources indicate that more than 185 million Americans, including people with disabilities, engage in gardening.
- 2022: 80% of households take part in lawn and gardening activities.
- Most popular home crop?



<https://tinyurl.com/garden-access>

<https://gardenresearch.com/view/national-gardening-survey-2023-edition/>

<https://www.thisoldhouse.com/lawns/top-gardening-statistics>

Importance of Gardening: Benefits

- Health benefits
- Food security
 - Pandemic
 - Disability issues
- Potential income



Benefits of Gardening

- Increased exercise
- Improved diet
- Time in nature
- Reduced stress levels
- Social connection
 - Mayo Clinic
 - “Dig into the benefits of gardening”
 - tinyurl.com/mayo-garden



Food Insecurity and Disability

- In 2021, for U.S. households that included an adult out of the labor force because of a disability, 28 percent were food insecure (low and very low food security). Among U.S. households with an adult age 18-64 who reported a disability but was not out of the labor force because of it, 24 percent were food insecure. In contrast, 7 percent of households with adults without disabilities were food insecure in 2021.
 - USDA Economic Research Service

Expanding Food Security

- Individual gardens
- Community gardens
 - Plot gardens
 - Cooperative gardens
 - Youth/school gardens
 - Entrepreneurial market gardens
- Working with Cooperative Extension
 - Master Gardeners



*Community garden
Edgewater neighborhood
Chicago*

UT Extension: "Addressing Food Insecurity: Expanding Access through Community Gardens" tinyurl.com/UT-garden

Gardening Planning & Design: The Breadth of Gardening

- What are you growing?
 - Vegetables
 - Fruits
 - Flowers
 - Exotic plants
- What scope?
 - Countertop
 - Patio
 - Backyard and larger



(no audio)

Gardening Planning & Design: The Breadth of Gardening



Garden Pre-Planning

- Garden Type
 - Ground-level
 - Raised Bed
 - Container
 - Hanging Basket
 - Tower
 - Trellis
 - Countertop



Swimming Pool Garden



Garden Pre-Planning

■ Garden Size

- How many tomatoes can you really use?
- How are you going to till and weed it?
- Start small and expand

■ Garden Location

- Exposure to sun
- Near a storage shed?
- Is there a water source nearby?
- Are there paths within and to the garden?

Garden Pre-Planning

- Types of plants
 - Perennials vs. annuals
 - Pruning required?
 - Cool weather planting and harvesting vs. warm/hot weather work
 - Ground-level crops vs. crops on trellises
 - Stooping, bending, kneeling



Espalier Fruit Trees



Gardening Tools & Accessories

- Small hand tools
- Long-handled tools
- Short-handled tools
- Sitting/kneeling tools
- Specialty tools



Preparing Your Body: Weather

- Weather
 - High temperatures and direct sunlight can cause problems
 - Certain medications, etc.
- Time of Day
 - When do you feel best?
 - Listen to your body
 - Stop before you hurt



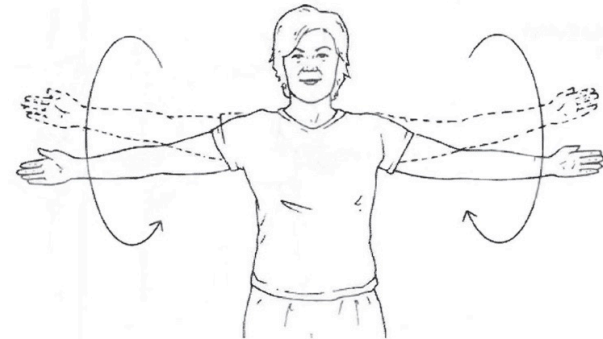
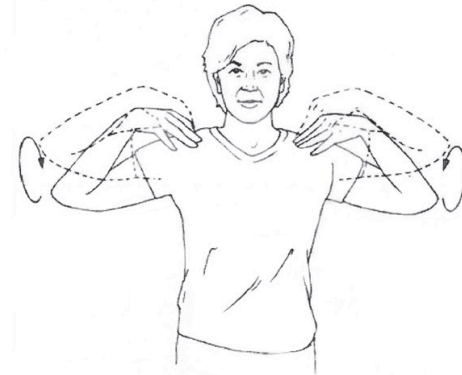
Preparing Your Body: Apparel

- Apparel
 - Hat
 - Sunscreen
 - Gloves
 - Footwear
 - Closed toe
 - Traction
 - Ankle support (boots)
 - Knee pads or pants/chaps with knee pads



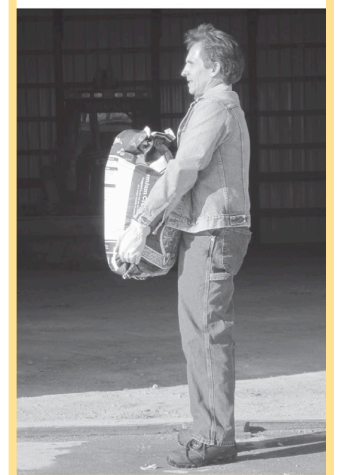
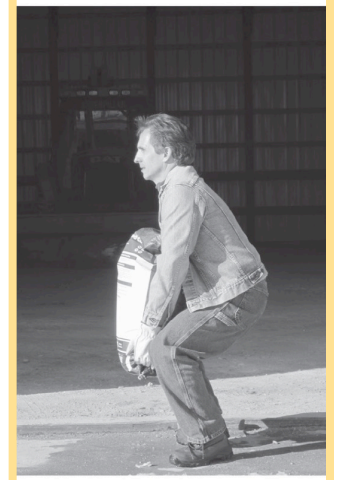
Preparing Your Body: Warmup

- Pre-gardening exercises
 - Warming up
 - Cooling down
 - Stretching



Minimizing Discomfort

- Proper posture
 - Keep back straight
 - Avoid twisting & kneeling
- Pushing, lifting, carrying, digging
 - Use hips, thighs, and knees instead of lower back
 - Lift shovel, turn entire body, dump soil
- Alternating tasks and taking breaks
 - Change tasks every 20 minute or so



Universal Design: Gardening for All Abilities

- Keep accessibility at the forefront from the start. A few considerations:
 - paths
 - garden height
 - place to rest
 - parking
 - irrigation
 - tools
 - signage

Stephen Cantu: FIG: Friendly Inclusive Gardening



Stephen Cantu
UCCE San Diego County Master Gardener

Route 36 Community Garden, Avon, Indiana




Route 36 Community Garden, Avon, Indiana



Route 36 Community Garden, Avon, Indiana



Garden Path Surfaces: Decomposed Granite

 <p>Adobe Sunset Decomposed Granite ☆☆☆☆☆</p> <p>View Product</p>	 <p>Brimstone Decomposed Granite ☆☆☆☆☆</p> <p>View Product</p>	 <p>Desert Gold Decomposed Granite ☆☆☆☆☆ 6 Reviews</p> <p>View Product</p>	 <p>Golden White Fines Decomposed Granite ☆☆☆☆☆ 1 Review</p> <p>View Product</p>
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TechniSoil
5 gal. G3 - Pathway Stabilizer Bottle
☆☆☆☆☆ (187) Questions & Answers (112)



Hover Image to Zoom

Garden Path Surfaces: Subsurface Pavers

- Creates firm surface for
 - Wheelchairs
 - Vehicles
- Can be filled with
 - Dirt
 - Gravel
 - Grass



Sensory Gardens: Definition

“A sensory garden is a garden environment that is designed with the purpose of stimulating the senses...”

- Sight, smell, touch, taste, and sound
- Can be especially beneficial to those who have sensory processing issues, including autism and other disabilities

Sensory Gardens: Examples



Sensory Gardens: Considerations

- Issues to consider
 - People with sensory processing challenges can experience *underreactions* and *overreactions* to sensory experiences.
 - *Balance* alerting and calming sensory experiences to allay stress and anxiety and gently enrich the basic senses.
 - Provide private, quiet spaces.

Questions about Garden Design?

Assistive Technology in Agriculture

The Toolbox Assistive Technology Database

www.agrability.org/toolbox



THE TOOLBOX
Assistive Technology Database



Kneeler and Seat



Functions as both kneeling bench and work seat. When used as a kneeler, the padding protects one's knees while the handles serve as arm supports when attempting to get back up. Flipped over, it becomes a seat.

Rolling Work Seat



The Rolling Garden Work Seat (also called a Scoot or Caddy) allows one to carry out many gardening tasks from a seated position, eliminating the need to squat, stoop, kneel, etc.

Sack Garden Mobile Garden Beds



The SackGarden Mobile Gardening Bed is designed to allow one to grow food or flowers just about anywhere -as long as there's a reasonable amount of light. The reusable (up to 5 years) soil sacks are reportedly stretchable, sturdy, permeable, and come with handles for easy moving.

Weed Pulling Tongs



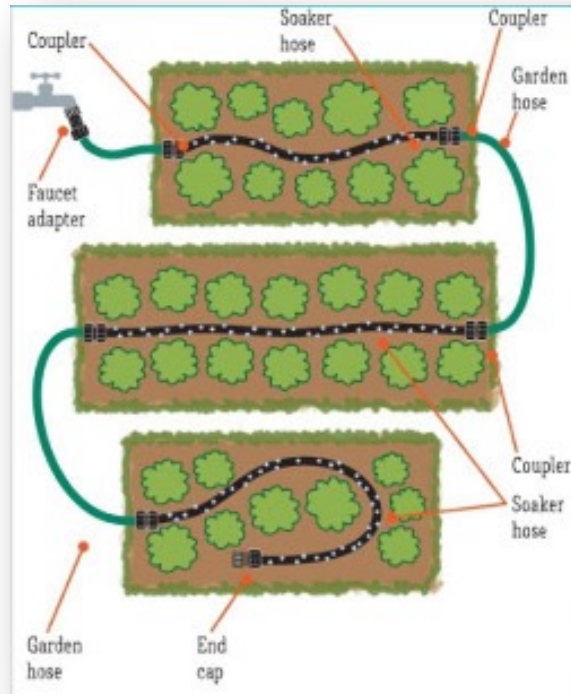
The Weed & Brush Puller is a gripping device that allows one to remove large or woody weed stalks from a standing position.

Weed Control: Mulch and Pre-emergents



Irrigation: Snip-N-Drip System

- Combination of garden hose, soaker hose, and fittings to apply water only where it's wanted.



Irrigation: Faucet Gripper

- Provides those with hand/wrist strength limitations, such as arthritis, the extra gripping and leverage needed to more easily turn on/off outdoor faucets.



Walker Cart



A Walker Cart enables workers to carry loads around the farm and lean on the cart for balance at the same time. This walker cart can also be modified with a lowered seat cushion on the cart to sit and 'pull' along as needed.

Wheelchair Cargo Carriers



LapSnap

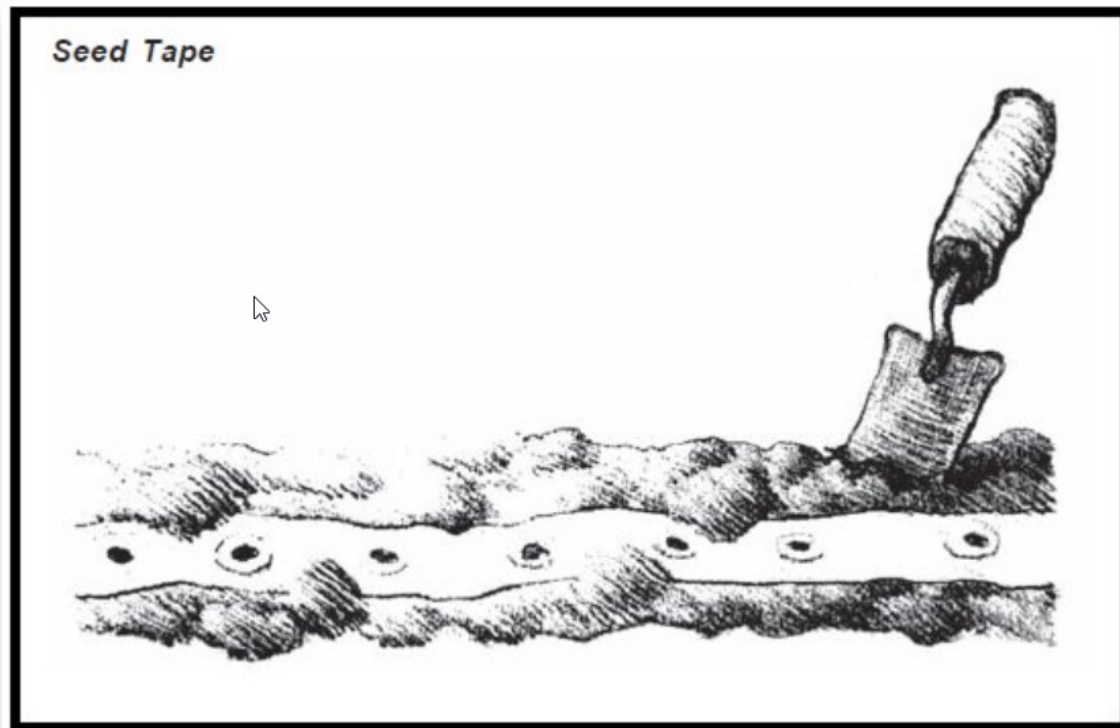


LapStacker

Mobile Tool Storage Caddy



Seed Tape



Seed Tapes allow one to do the fine planting work (i.e., seed placement) indoors at a convenient and comfortable work site. The tapes are made by cutting newspaper into 1-inch-wide strips, brushing them with flour-and-water paste, placing the seeds on them at appropriate intervals, then allowing them to dry.

Beekeeping Equipment

- Accessible hives
- Hive lifters/carriers
- Beekeeping accessories



Mobility Devices: Powerhorse



Lower Tech Examples

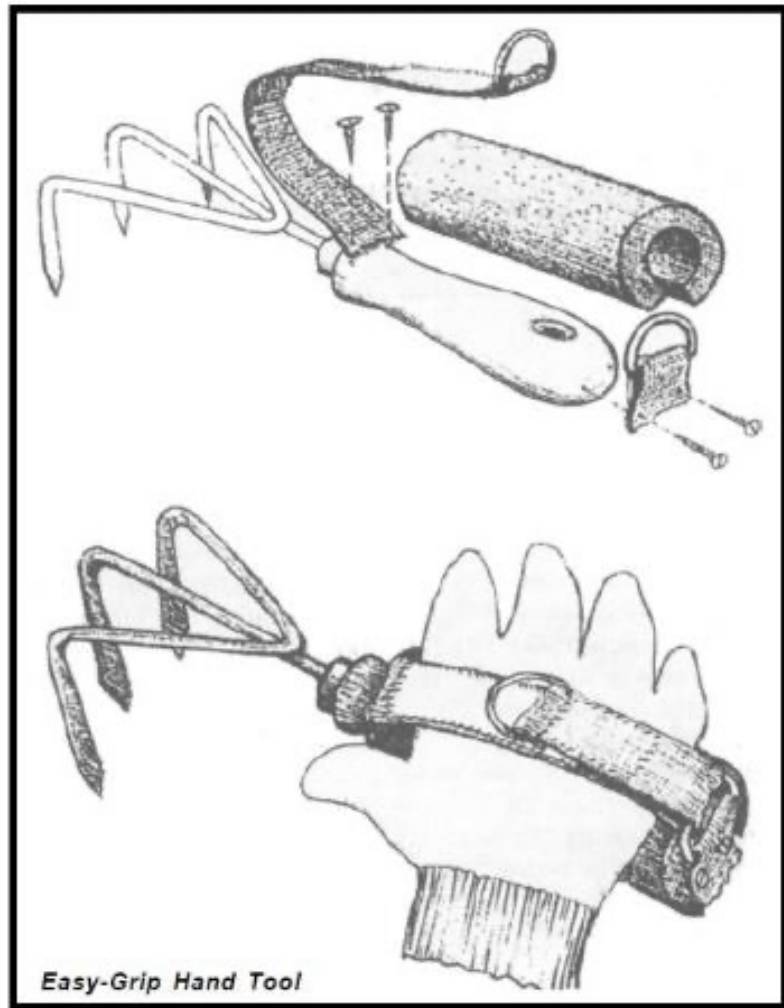


Single Arm Garden Tools



Homemade Single-Arm Gardening Equipment (SAGE) includes standard hoes, shovels, rakes, pole pruners, etc. that are modified to accommodate the needs of persons with one arm or limited mobility on one side of the body.

Easy-Grip Hand Tool



Doreen Greenstein's book, *Easy Things to Make Things Easy*, shows how to make an Easy-Grip Hand Tool using a "D" ring, Velcro strap, and hot water pipe insulation.

Wind Chimes: low vision

Seymour, WI, farmer Chuck Gomm has placed Wind Chimes with differing sounds on various buildings as non-visual navigation points. The chimes provide an easy way to identify the buildings as he walks about his farmstead.



Rope Guide: low vision

To navigate to specific sites in his yard, Decatur, IL, farmer Robert Miller (who is blind) uses a Rope Guide, which was first installed so that he could locate his wood-pile in order to bring wood into the house during winter.



Garden Marking: Low Vision

- Boards to mark edge of garden
- Stakes with twine to mark rows
- Different numbers of rubber bands to indicate crops



Cooperative Extension

- Master Gardeners
 - Training
 - Volunteer opportunities
 - Assistance with your projects
- Extension agricultural/natural resources educators
- Every county in the U.S. is covered by an Extension office

Master Gardener Intro (Iowa)



Resources/Publications

- www.agrability.org/arthritis

- *Arthritis and Gardening*

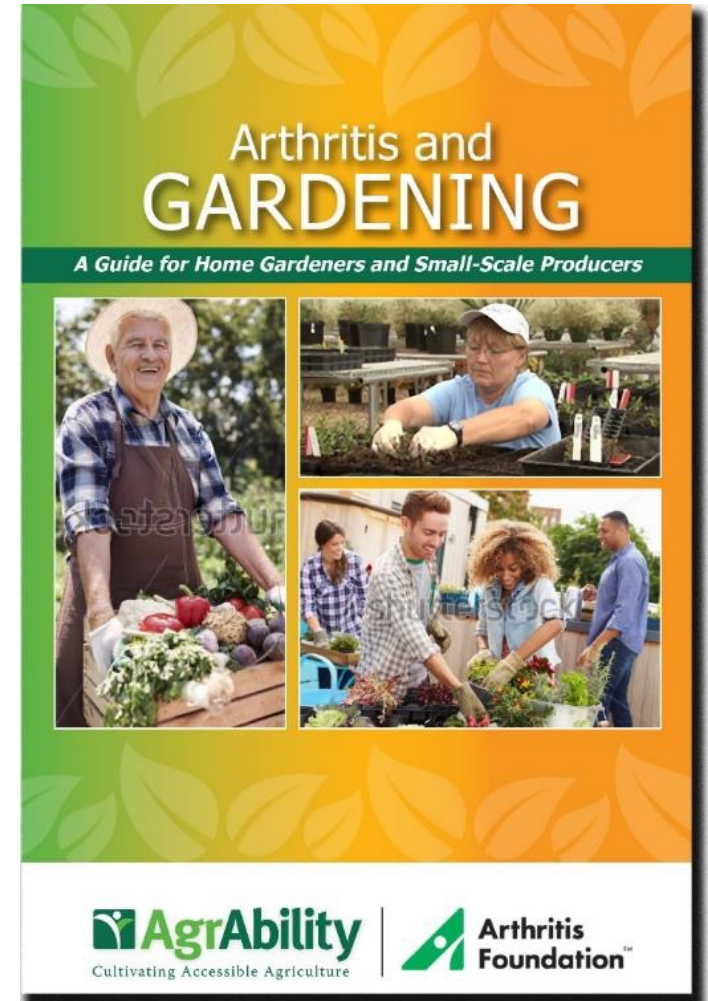
What is arthritis?

Garden pre-planning

Tools & accessories

Preparing self for gardening

Minimizing discomfort



Resources/Publications

- Chicago Botanic Garden
 - *Gardening as a Social Enterprise: Including People with Disabilities*
- Web searches of “accessible gardening,” “adaptive gardening,” etc.



Thank You!
