



Adaptive Gardening Techniques for the Visually Impaired

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Most people with visual impairments are not totally blind, but they do have various kinds of mild to severe visual problems. According to the National Eye Institute, only 10% of the 14 million visually-impaired people in the United States are completely blind. Because a portion of the gardening public in Oregon has some visual impairment, this publication provides several adaptive methods and suggestions to make gardening simpler for these gardeners.

Design

Avoid curved pathways because they make orientation difficult. Path segments should be straight, with changes in direction marked by a shrub or with a change in the texture of the path material. Steps should be accompanied by a rail that begins several feet ahead of the steps.

- *Make flower borders and planted beds no more than three feet across so the gardener can reach the plants while kneeling and working with short-handled tools. Island beds, with access from two sides, can be wider, as long as the*

gardener can easily reach the center of the bed from either side.

- *Arrange plants in beds in groups of three to five, in straight rows, to make specific plant types easier to locate.*
- *Group colors with the help of sighted friends or from memory. Variety in texture and shape of foliage give added satisfaction in terms of touch.*
- *Distribute scent in the garden to various locations and at different times of the year. Individual fragrances can help the gardener locate particular areas.*
- *Use sound makers, such as wind chimes, flutter mills, and moving water, which can help the gardener locate special parts of the garden.*

Seedlings

Seed sown in individual containers or spaced individually in a tray make thinning, which is difficult

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without vision, unnecessary. Try these tips:

- *A board with holes drilled in it helps space seeds in a tray.* For example, a plastic board with five rows of eight holes works well when planting larger seedling trays or flats. Holes 1-inch in diameter allow room for the gardener to cover each seed with a thin layer of soil.
- *To sow tiny seeds, have small 3/4-inch pieces of toilet tissue ready.* Spread a few seeds on a plate. Pick up one or two seeds on a damp finger, then rub the seeds onto a piece of tissue and wad it up. Drop the tissue through one of the holes in the board. The tissue will disintegrate quickly when covered with soil.
- *To form straight rows in the vegetable garden, stretch a cord between two pegs and use it as a guide when sowing seeds.* The cords help mark the rows until seedlings grow. Rows of vegetables can be identified with braille labels or wooden vegetable shapes on pegs.
- *When potting plants, there is an easy way to center the plant in a medium-sized pot.* Put a layer of potting soil into the new pot, then center a smaller pot on top of the soil. Fill the sides of the larger pot with soil, pressing the soil down a bit. Remove the small pot from the center, put the

plant into the resulting hole, and add enough soil to hold the plant in place.

Tools

Long-handled tools, such as rakes, forks, and spades, are best for preparing the garden. Tools with short handles (8 to 30 inches) are better for cultivating because they allow the gardener to touch and cultivate at the same time.

- *Use "one-handed" shears for pruning.* They leave one hand free to feel the plant.
- *Paint tool handles a light color to contrast with the soil.* Color contrast can also be used for containers, pathways, fences, gate latches, table edges in the greenhouse, steps, and other things the gardener might have trouble finding or noticing.
- *Keep tools in a bucket or gardener's apron.* Place weeds and garden debris in a bucket.
- *Knee pads are helpful,* since much of the work will be done while kneeling.
- *A wheelbarrow with two wheels, a resting leg, and one handle is ideal for visually impaired gardeners.* It can be pushed with one hand and is more stable than a regular single-wheeled barrow. A portable radio attached to the wheelbarrow makes it easier to locate.
- *The gardener's problems range from difficulty in reading a pesticide label*

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to finding the lawnmower. Gas-driven and large electric mowers are unsafe for visually impaired gardeners. A hand mower is best; a quiet, battery powered mower is next best. Blades should be well guarded, adjustments easy to make, and the power should stop automatically when the operator releases the handle. Make a guideline from a cord stretched between two stakes, one at each end of the lawn strip to be mowed. The stakes can be moved to mark each new strip. Pegs, garden forks, a long strip of wood on the ground, and a sound beacon are among other types of marking that can be used.

Maintenance

Correct growing conditions help keep plants healthy. If detected early, pests and diseases can be controlled with such mechanical means as barriers, traps, spraying with a jet of water, or removing damaged parts of plants. If the gardener has no sight, it is difficult to detect pests and diseases in their early stages. Assistance from a sighted friend is helpful. Other, non-chemical, pest control measures include encouraging beneficial insects, using soaps, spray oils, or botanical insecticides, and accepting a certain amount of damage. It's best to leave mixing and applying pesticides to a sighted friend.

- Use syringes with raised markings to measure liquid fertilizers and similar products. Some liquid products are measured out in the container cap, which is difficult to do without spilling.
- Shape, texture, and sometimes smell distinguish weeds from desirable plants. Use short-handled tools instead of chemical herbicides to remove weeds.
- Use landmarks to divide an area. Then weed one section at a time.
- To prune thorny plants, wear gloves with a hole cut for the pad of the index finger. This allows the gardener to use that finger to find thorns and avoid scratching the rest of the hand. Large trees and shrubs are the most difficult to prune.
- Others shouldn't work in a visually impaired person's garden. That way gardener can maintain a consistent mental image of the garden's condition and needs.

For More Information

- Dickman, I., *Making Life More Livable*, New York: American Foundation for the Blind, 1983.
- Fleet, K., *A Manual for Blind Gardeners*, Great Britain: Royal National Institute for the Blind, 1978.
- Horttherapy*, Vol. 1(1), Vermont: National Council for Therapy and Rehabilitation through Horticulture, March 1979.

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Other Publications

Other titles available in the "Making Gardening Easier" set are:

Jewell, M., and Powell, J., *Gardening Hints for People with Arthritis*, Oregon State University Extension Service publication EM 8499 (Corvallis, 1992).

Throckmorton, E., and Powell, J., *Gardening Adaptations for People with Gripping and Lifting Problems*, Oregon State University Extension Service publication EM 8500 (Corvallis, 1992).

Foster, S., and Powell, J., *Gardening Strategies for People with Heart and Lung Problems*, Oregon State University Extension Service publication EM 8501 (Corvallis, 1992).

Foster, S., and Powell, J., *Gardening Ideas for Children with Special Needs*, Oregon State University Extension Service publication EM 8502 (Corvallis, 1992).

McNeilan, R. A., and Powell, J., *Therapeutic Benefits of Gardening*, Oregon State University Extension Service publication EM 8503 (Corvallis, 1992).

Throckmorton, E., and Powell, J., *Adapting Garden Tools to Overcome Physical Challenges*, Oregon State University Extension Service publication EM 8504 (Corvallis, 1992).

Rogers, P., and Powell, J., *Gardening with Limited Range of Motion*, Oregon State University Extension Service publication EM 8505 (Corvallis, 1992).

For more information about the Master Gardener Horticultural Therapy Program, write the Oregon State University Extension Service, Oregon Master Gardener Program, 211 S.E. 80th Avenue, Portland, Oregon 97215.

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