in this type of landscape, but it needs to be cut back severely in winter.

One Simpsons' Stopper plant died from unknown causes, but the rest showed good growth and maturation throughout the investigation and are highly recommended for use with reclaimed irrigation water in xeriscape conditions.

Blue-eyed Grass was the only ground cover species that did not survive to the end of the investigation. This plant did well to start and flowered profusely, after which it died out. The reason for this is not immediately clear but is probably related to high chlorides in the irrigation water. The other ground cover species, Coral Honeysuckle, Rain Lily and Yellow Jessamine all grew and flowered well and multiplied throughout the investigation.

Fahkahatchee grass and Saw Palmetto were highly salt tolerant and grew extremely well with the use of reclaimed water as an irrigant. The grass grows up to 8 feet tall and 9 feet wide and the Saw Palmetto produces much underground tuberous growth. These factors should be taken into account before planting these species in a xeriscape landscape situation. It is recommended that the dwarf form of Fahkahatchee grass be used in most landscapes.

To sum up the 17 species investigated, the two species of trees (River Birch and Winged Elm), three species of shrubs (Blazing Star, Red Anise and Rusty Lyonia) and one ground cover (Blue-eyed Grass) did not grow well under the experimental conditions. Rusty Blackhaw grew fairly well but showed excessive leaf burn. All other species used in this investigation can be recommended for use with reclaimed water as an irrigant and may be included in xeriscape landscaping.

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COMPOSTING THE EASY WAY

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Abstract. **The virtues of composting are widely extolled, but most instructions for doing so are: (1) Unsuited to mid-Florida conditions, and (2) much too strenuous for any but the young and physically robust to attempt. This paper explains the scientific principles involved in composting and describes the novel, physically undemanding method for doing so developed by this septuagenarian author. Compost is particularly valuable for gardeners who delight in propagating their own plants. But for propagation, one needs a potting bench and storage facilities for containers and other accessories. A snug composting/propagation area is described that is quite invisible to the neighbors, but which for 30 yr has provided the author with plants for the garden, exercise for the body, and tranquillity for the soul.**

For well over 50 yr, I have been reading advice on composting in various bulletins, magazines and newspapers, little of which is much help to any gardener who is past the vigor of youth and/or gardening in an area of light sandy soils.

The usual advice is to build a pile of alternating layers of plant material and "good loam soil" and fork it over completely once or twice a year. That made sense when I was a sinewy young undergraduate student earning my 25 cents per hour working on the big compost heaps behind the Department of Horticulture at the Ontario Agricultural College. For a septuagenarian gardener in hot, humid mid-Florida, such a procedure would be impossibly onerous. Moreover, good soil of any kind is almost impossible to find in mid-Florida. Nevertheless, for 30 yr, I have happily composted our garden waste to improve this impossibly lean soil and done so without excessive exertion and without close neighbors even realizing that I have a row of compost heaps and a very convenient garden work area where I can propagate to my heart's content. Over the years, the house next door has changed hands several times. Each time that I offer the new neighbors the chance to choose some plants from my little nursery, they express surprise at being introduced to my efficient little "compost factory" and work area, since they have never realized it is there.

Any gardeners who want to make the most of nature's bounty and who like to "make" their own plants need something similar. Come share 30 yr of experience in how to do so. But first, let's look into the "why, what and how" of scientific composting.

Why compost? The first obvious reason is because it is good gardening and excellent environmental practice. (Please do not say "Because it is good for the ecology"! If that admonition is puzzling, consult a good dictionary.) Water and fertilizer give only temporary sustenance to plants in lean sand soils. Composting constantly recycles the plant tissues produced by that water and fertilizer and does so in a totally natural way. Composting is also good citizenship. If that sounds odd, consider that a 1988 University of Florida study found that it costs approximately 5 cents a pound to handle garden trash as municipal waste (4). Think of that when you put leaves, lawn clippings, prunings, etc. out for the trash collector, particularly if you do so in non-recyclable plastic bags. Composting also affords excellent *productive* exercise. No way could I imagine myself doing something as totally unproductive as jogging when I can get my necessary exercise gardening, most particularly composting.

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What is Composting? Composting is the systematic conversion of plant materials into organic matter suitable for productive gardening. In its early stages, composting results in a coarse material useful for mulch around shallow-rooted, but moisture loving plants such as azaleas, or for putting under "gross feeders" such as chrysanthemums. The next stage, which is soon reached in a warm humid climate, is a rich friable material suitable for use as potting soil, as a propagation medium for many types of cuttings, and as a top dressing on lawns. The final stage (and all that is persistent in tropical and subtropical climates) is humic acid and its derivative compounds known as humates. Humates are particularly valuable in sandy soils in which, in many ways, they can substitute for the chelating and adsorption properties of the clay colloids so comspicuously lacking in sand soils (5). Humates are curiously persistent. One commercially distributed humate product is extracted from certain "Permian shales" (1) although the geological Permian Period was from 290 to 240 million years ago! Humates play a direct role in soil productivity, promoting good soil structure and facilitating absorption and retention of water, nutrients and beneficial microorganisms. At no stage is well-made compost smelly, slimy, or unpleasant.

How to Compost. Obviously there are various ways to compost garden wastes. This describes the very practical system I have evolved over 30 yr of managing a fairly large home garden in Central Florida. With experience, other gardeners can work out their own versions, but these general principles should be followed.

The drawing (Fig. 1) shows how my garden working area is located in a secluded corner surrounded on 3 sides by a tall "fedge" (a hedge of Cape Honeysuckle, *Tecomaria capensis*, and Turk's Cap, *Malviscus arboreus*, woven into hogwire fencing) and an aluminum garden shed on the fourth side. The 3 compost heaps are framed separately with hogwire on 3 sides. The third unit is additionally lined with coarse galvanized "hardware cloth" (wire mesh) on 2 sides to prevent the "fines" falling through. DO NOT use solid sides (such as concrete block) which inhibit aeration, inviting slime molds and evil smells. Aeration is important in composting. Particularly in a warm, humid climate, concrete-walled compost pits can get quite horrid.

The first compost heap is at least twice the size of the other 2 as considerable decrease in volume occurs. It is completely open at the front. (The other 2 are partially closed at the front). It is in this first heap that the magic begins, and that includes the generation of a suprising amount of heat, particularly when a high proportion of succulent grass cuttings are included. I tried to check this temperature with a fruit thermometer, but it only read up to 110°F and I drew it out quickly least the bulb burst. This heating kills most weed seeds and "pasteurizes" many disease organisms. In a recent article (2), one "hot compost" enthusiast claimed that it is necessary for this initial heating to reach 160°F (71°C). I doubt that my compost regularly gets that hot, but I have singularly little trouble with weed seeds or living weed propagules in the final product.

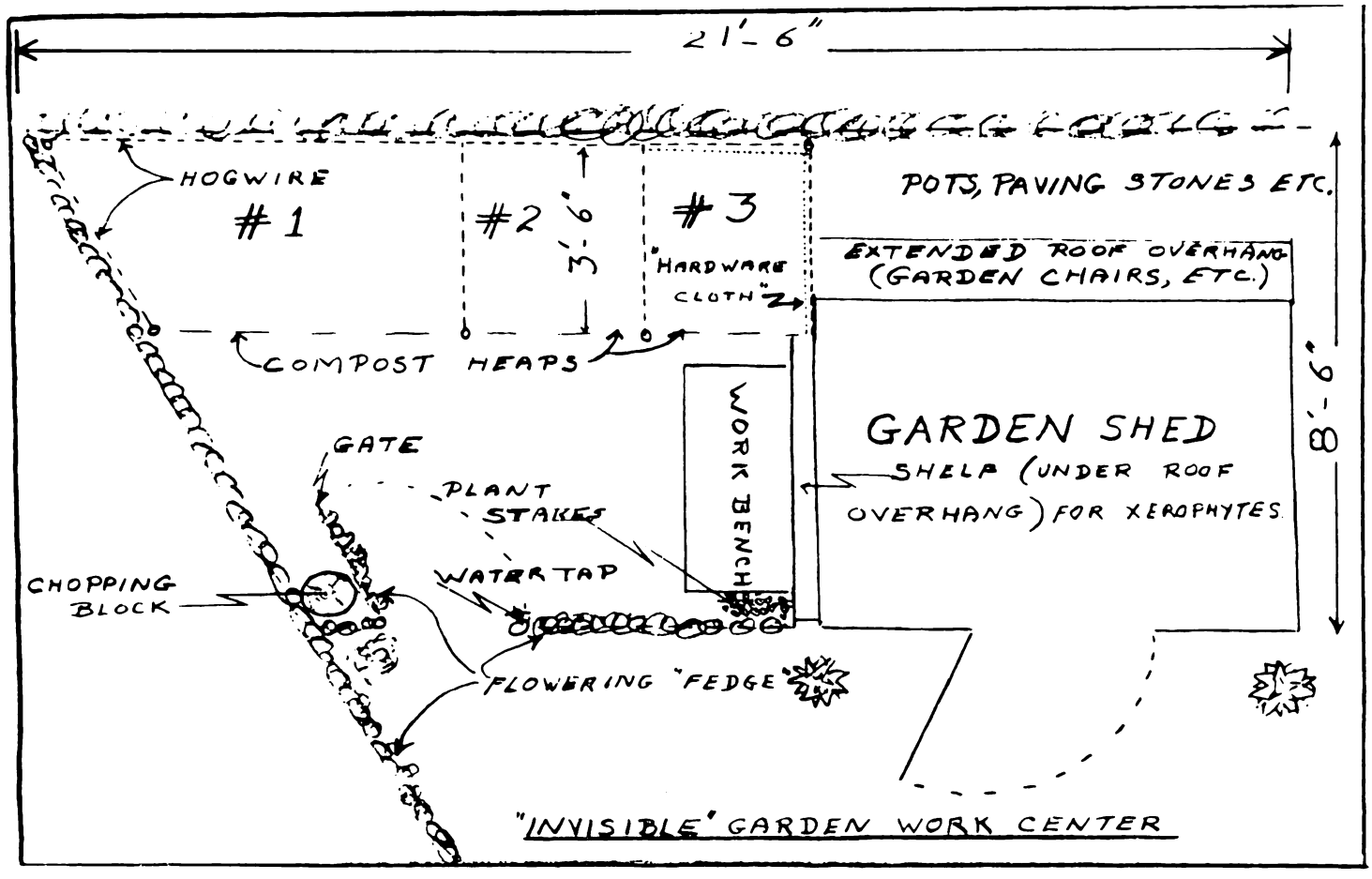

Fig. 1. "Invisible" garden work area, completely concealed by hedges and the aluminum garden shed. Note that: (1) The gate is wide enough to admit a standard garden cart, and (2) The first compost heap is at least twice as big as each of the other two.

As clippings, leaves, prunings, etc. are added, I mix them up thoroughly, then tramp them down. Separate layers of leaves, grass clippings, etc. do not compost nearly as well as they do when mixed together. Homogeneous layers, particularly of large, flat leaves (such as fiddle-leaf fig) tend to form impenetrable masses that impede aeration and even percolation of water, both of which are important in composting. Each time I add 6 inches or so to the pile, I tramp it down leaving the top hollowed out to help rain penetrate. (In really dry weather, I use the hose.) When adding much coarse woody material, I add a few pounds of high nitrogen fertilizer to encourage bacterial decomposition. A recent press account (3) quotes an engineer working on trash disposal as saying, ". . . palm fronds don't break down regardless of the environment." Not knowing about this, chopped up palm fronds have long been one of my favorite composting materials! I do NOT add soil. The local "soil" makes excellent concrete blocks, but is useless for composting.

As Darwin pointed out over 100 years ago, earthworms are marvelously beneficial to soil. But our sand had no earthworms, so I added a quart of "fishworms" when I started composting. Today, their descendants flourish throughout the garden.

Now for the simple secret of "composting the easy way." I do NOT attempt to "turn over" a complete pile. That No. 1 section is about 7 cubic yards and my sacroiliac aches to think of doing so! Instead, I dig each heap out from the bottom using a digging fork and a long handled shovel, the product from the bottom of each heap going onto the top of the next. Ultimately, when I have dug a big enough "cave," the heap collapses and new material goes on top. Depending on need and weather, I may dig out only a bushel or so at a time, or (when the weather is cool and I need exercise) I turn compost over for an hour on end. Wonderful exercise!

Off and on over the many years, more than plant material has cycled through these compost heaps including dead rats, snakes, and sadly, birds. (At one time, the kid next door had a BB gun with which his parents were convinced he never shot at a living thing!) A surprising amount of paper (mostly from packaging used on garden supplies) has composted nicely. None of such miscellanea has ever been apparent in the final product. At the University's figure of a nickel a pound for disposal of garden trash, these compost heaps have saved the city hundreds of dollars over the years.

A Garden Workbench

Every serious gardener needs a work area, and a workbench eliminates a great deal of "stoop labor." Kipling wrote: "Oh, Adam was a gardener, and God who made him sees, that half a proper gardener's work is done upon his knees." But with every passing year, the knees get more reluctant to cooperate! In Fig. 1, the location of my garden workbench can be seen against the wall of the garden shed. It is of very simple, but weatherproof, construction. It is shown in its usual state, which is cluttered, gloriously cluttered, with bags and pots of this and that, small tools, containers, stakes, and plants in various stages of propagation. Every gardener needs such a totally unseen work area, and very few of my neighbors even know this one exists.

Who needs jogging and exercise machines when compost heaps and a garden workbench can provide so much healthy, useful, and enjoyable exercise.?

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PROPAGATION OF THREE ENDANGERED *CONRADINA* SPECIES FOR ORNAMENTAL USE

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Abstract. **Three rare Florida scrub endemics, *Conradina brevifolia* Shinners, *Conradina glabra* Shinners, and *Conradina grandiflora* Small, which have been brought into cultivation in Bok Tower Gardens' Endangered Plant Program, have promising ornamental potential. Attractive woody mints with aromatic needle-like foliage resembling the herb Rosemary, all three species root readily from cuttings and grow rapidly to saleable size with standard nursery practices. Flower color and growth habit vary among individuals, but selected clones have showy pale blue flowers and compact foliage. Their natural disease and pest resistance, cold hardiness, and drought tolerance make them ideal for low maintenance, low water landscapes.**

Development pressures and relentless habitat destruction have put many rare Florida endemics at risk of extinction. Bok Tower Gardens' Endangered Plant Program is bringing these rare species into cultivation for research and safe keeping. While *ex situ* populations will be maintained at The Gardens, the goal is the development of technology to establish new populations on protected sites (3).

Three of these species—woody mints of the genus *Conradina*—which are reduced to alarmingly low population numbers in the wild, have responded very well to cultiva-