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Earthworms: Their Intensive Propagation and Use in Biological Soil Building

Thomas Barrett

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Earthworms

Their Intensive Propagation and Use In Biological Soil Building

[Note. In the early years at Lane's End Homestead, I propagated earthworms. Difficulties therewith, and the increasing number of "projects" on the homestead, led to discontinuing it. In August, 1966, a talk by A. P. Thompson, of Golden Acres Organic Orchards, Front Royal, Va., at our School of Living annual workshop, on the marvelous results he has achieved with earthworms (and seeing that mass of breeder worms in his culture box), renewed my interest. I find that good instructions for a breeding program are hard to locate; Thomas Barrett's (master earthworm worker and authority) books are out of print (School of Living copies of his books can't be found). With the loan of a book from Alice Sechrist, friend of Dr. Barrett, we will quote significant portions in forthcoming issues of *Green Revolution*.—M. J. Loomis]

Foreword

Thomas J. Barrett, a Los Angeles physiotherapist, faced a dark day in 1936. His health had broken and his business had failed. At an age when he was ready to retire, he had to make a new start.

To regain his health, Dr. Barrett had to get out of the city. A friend offered him an acre on a hot, dry hillside at the edge of the San Fernando Valley for \$5 a month. The only growth on the steep slope was cactus, and the doctor and his wife spent weekends clearing away tin cans and digging in the shallow soil to level a site for a tiny shelter.

The doctor's first shovelful held a wriggling earthworm, which inspired a mental flashback to 18 years before. Thomas Barrett was a doughboy in France, watching an aged peasant, in spite of booming gun fire, sweep up loose soil at the foot of a damp wall. Why was this earth so precious?

"*Le Bon Dieu* knows how to build good earth and he has given the secret to the earthworms," replied the old Frenchman gravely. He gathered the earthworm castings every few days to enrich his garden and flowers.

In 1936, Dr. Barrett asked his wife, "Why can't we put worms to work turning our hillside into a garden?" Reading up on earthworms, from Aristotle through Charles Darwin, was to transform his acre and his life as well. His homestead changed to an oasis, with an ivy-covered cottage, surrounded by trees, grape arbors, vegetables and flowers. Earthworms provided him with a livelihood, horticulturists and specialists came to his door from many lands. He was listed in *Who's Who*.

Earthmaster Farm

Dr. Barrett named his hillside "Earthmaster Farm." He started with some earthworms brought in from well-mulched dells in the rainy season. He got others from earthworm farmers. He found that in a moist mulch pile, earthworms are prodigious reproducers if given all the food they can eat. They thrive on leaves, lawn trimmings, hay, manure and buried scraps from the kitchen. Gradually his acre became more and more lush. When he wasn't satisfied with the way a tree, bush or vine was performing, he dug a hole close to its roots and planted a shovelful of soil from his earthworm culture bed. Grass grew three times as heavy as on nearby lots. Petunias grew twice as large; vines yielded top-quality grapes. His carrots were so big that a single one, diced and cooked, filled three standard cans. Some of his peaches weighed a pound.

An earthworm, working the surface at night and boring into the earth by day, will cast up his weight in fresh soil every 24 hours. These castings are excellent plant food. Topsoil, after being thus transformed, is five times richer in nitrogen, seven times in phosphate and eleven times in potash. In a dozen years, Dr. Barrett had at least a million earthworms boring into his hillside, drilling as much as six feet in the rocky subsoil to bring up minerals that formerly were unavailable to the roots of growing plants.

Dr. Barrett figured that a million earthworms weighed as much as a horse, but their combined muscles were a hundred times as strong as a horse. They worked around the clock, while a horse plows about eight hours a day. Worms mulch around the roots of plants where a horse plow can't go, and instead of damaging the roots, the earthworms open holes for them in compact subsoil.

More Topsoil vs. More Land

Sometimes Dr. Barrett was asked why he didn't buy the barren acre next to him and turn earthworms loose on it. "I don't want more land," he explained. "I just want more topsoil. That's the trouble with thinking in this country: everybody wants more acres when what we need is more topsoil."

The doctor began talking about the achievement of his earthworms to anyone who would listen; he wrote many articles, and a book, *Harnessing the Earthworm*, of which *Earthworms, Their Intensive Propagation and Use in Biological Soil Building* is a condensation.

From his many years of research with earthworms, three of which he spent as a laboratory assistant at the California Institute of Technology, Dr. Barrett believed that every city could maintain a farm where the garbage of the community would be used to feed earthworms and make soil, instead of going to waste. He believed that the organic waste of any city like Los Angeles, if transformed back into soil by earthworms, could produce enough food to feed the city's population.

It takes nature 500 to 1000 years to lay down an inch of topsoil. Under favorable conditions a sufficient number of earthworms can do the same job in five years. Any individual, working with a compost pile, can start building topsoil for his garden or lawn. Crowded on the face of the earth are more than two billion people depending on our dwindling supply of topsoil for food. Many of us believe with Dr. Barrett's conclusion that "it's time we harnessed the earthworm to rebuild it."

(to be continued)

Letters, cont'd

selves a survival chance! Why exist as slaves to timeclocks, paychecks, banks, timepayments, breweries, tobacco trusts, tax-collectors and gadgets?

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Housing For Meat Rabbits

Earlier I promised to give you the word on rabbit housing from our son's 4-H manual, but on comparing it to other material I have I find it too simplified and skimpy to bother with. It is a junior manual and the writers apparently figured youngsters that age would not be building their own hutches.

I found good housing information in *Farmer's Bulletin* 1730, available from the government printing office, and in *Rabbit Raising, Manual 9*, from the college of agriculture, University of California. The best information is in *Rabbit Hutches and Housing*, from Reliable Fur Industries, Montebello, Calif. This 45-page booklet has hundreds of diagrams and material lists for all types of hutches (including some used only in foreign countries that could be adapted to use in this country). I will mention some of these here.

Barrel Hutches

In France there are thousands of backyard rabbit hutches of low-cost barrels, what could be simpler? Unless you want to kneel on the ground in all kinds of weather to care for the rabbits, you might want to establish the barrels on waist-high scaffolding of some kind. The all-wood floors would need to be covered with straw, grass, shavings, sawdust, peat moss, etc., for cleanliness (the material to be changed at least weekly). In the heat of summer, the lack of ventilation in a barrel might cause some loss unless you shaded the hutches, perhaps under trees.

Morant Hutches

In England, France, Belgium and Germany, the Morant system of movable combination hutches and runs is used in order to let the rabbits graze on fresh grass daily. Hutch cleaning is then simplified for the rabbits do not make toilet in the sleeping quarters. The ground on which the hutches are moved about is enriched very quickly with the droppings that fall between the two-inch mesh flooring.

In construction, there are two types of Morant hutches: an oblong box and an apex roof type.

The box is 6 ft. x 3 ft. x 2 ft. high in front and 20 in. high in the rear, with a hinged water-shedding roof and top rails extending 6 in. at both ends so that two people can move the hutch daily. We have a chicken shelter similar to this for young chickens before they are established in the laying flock in our barn.

Box 623, Patagonia, Ariz. 85624

No Bargains For Us

To the Editor:

We loitered over breakfast and the morning paper. My wife handed me the 2-page spread of Labor Day grocery specials, saying, "All these bargains and not a one for me." She was right. Everything listed was either something we already had in the freezer or growing in the garden, barn and pen; or because it wouldn't "feed" us.

A few samples: pure vegetable shortening—hydrogenated empty calories; cream pies, ever-fresh bread and buns—we never buy bakery goods made with white flour and refined sugar; Mastercraft French fries—we cook our own organically grown potatoes; mayonnaise—my wife makes it; low calorie Hawaiian punch—low calorie means coal tar sweeteners, and no, thanks; Vienna sausage and luncheon meat—full of chemicals; cucumber chips—we make our own; sugar, 5 lbs. for 37c. Flocane fine granulated—no bargain at any price; self-rising flour—more empty calories with chemicals; cola drinks—don't use them.

Trouble with homesteading is, since we grow most of our own food, eat it fresh and store, can or freeze it, we just can't take advantage of those wonderful bargains in poisoned, fractured food at the supermarket. — Hal Porter, Rt. 1, Box 1742, Port Orange, Fla.

Our shelter has sturdy wheels at the house end of the structure and one person can move the ark about. The sleeping-nesting house at one end of the structure is of solid wood walls, with a sleeping shelf raised above the floor to get the rabbits off the floor when cold.

The apex roof type is even easier to build, consisting of two side panels 6 ft. long and 30 in. high, with 2 ft. of it at one end being of solid wood to form two sides of the house. Add to this three triangles, one covered with 1-in. poultry mesh and the other two of wood. One has a hole 7 in. in diameter (the rabbit door between the house and the run).

You will want a door in the house in order to service the rabbits, a sleeping shelf and straw or other clean litter on the floor.

The back wall of the Morant run is of solid wood, as protection against winter winds and rain.

Rabbits raised in this manner are extremely healthy, since they utilize natural food. The food cost is lowered and cleaning time is cut considerably.

The Warren System

In the warm, dry sections of our country a warren system could be used, similar to methods that have been used in England for over 200 years. The rabbits graze in a pasture, fenced 4 ft. high with 1-in. mesh, above which is strung a barbed wire to discourage predators. One length of poultry netting is laid on the ground and wired to the fencing to prevent the rabbits digging out. The housing is a light, portable building with a sloping roof to shed rain. The pasture should be divided into four parts; the rabbits moved to the next section as they graze down one section. The idea is similar to our old-fashioned chicken yards, the system being close to the natural manner that rabbits live in the wild. Again the food cost and the cleaning time are cut.—Rose Smart (to be continued)

HOMEMADE BOOKS, written by vegetarians, hand produced at old Whittier Farm. WE WALKED TO MOSCOW, by Jerry Lehmann; 100 pages, 20 photos, maps, etc.—\$1
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