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Roots Demystified - Change Your Gardening Habits to Help Plants Thrive

Robert Kourik, 2008_Metamorphic Press, 8.5 x 11 inches, 165 pages, \$25.00

We all know that there are roots beneath a plant, and we have a vague mental image of how they must look. We also know that roots need air, water, and nutrients, and we try to provide them. Kourik's book shows us that we are often imagining root systems incorrectly; what he tells us about how roots operate should help us grow a better garden.

Kourik has suspended excavated plants, even trees, so that he could study the root patterns, and has delved into scientific journals to find research on roots, especially any that included drawings of root systems. Then he combined information gleaned from horticultural research reports with his own direct observations during three decades of work in gardens, to show us how root systems really look and explain how they function.

So how are root systems different from how most people imagine them? Wider, mostly, and also more concentrated near the surface, but with some roots digging deeper than we might have guessed. Kourik dispels the myth that roots mirror the visible part of a plant, or that they extend only as far as the above-ground branches. He re-emphasizes the importance of root hairs, those tiny short-lived filaments that do most of the work of bringing water and nutrients into plants, before dying and being digested by soil micro-organisms so their nutrients can be reabsorbed by the plant.

There is plenty here for any amateur gardener or landscape professional to ponder, including: a thoughtful discussion of how root research reflects on the various schools of thought on soil preparation for vegetables (to dig or not to dig? to mulch or not to mulch? to cultivate with a hoe or not?); explanations of the latest research on mycorrhizae (fungus/root relationships) and on moisture banking (roots that share water with the roots of nearby plants); and the last word on the most-likely-to-succeed methods of planting woody plants (plant on a mound, with little or no amendment or fertilizer in the backfill, then mulch the area, but not close to the trunk). Garden planners will welcome the lists of trees useful in lawns or not good in lawns, and trees that will tolerate narrow areas between hardscape features.

You will finish this book eager to apply its practical tips in your garden. My favorite is

that it is important to extend mulch, fertilizer, and/or water at least to the drip-line of a shrub or tree, preferably farther, rather than just around the trunk. In fact, Kourik suggests that a doughnut-shaped ring of mulch, fertilizer, and water near the drip-line may be best, since it will encourage the roots to spread outward.

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