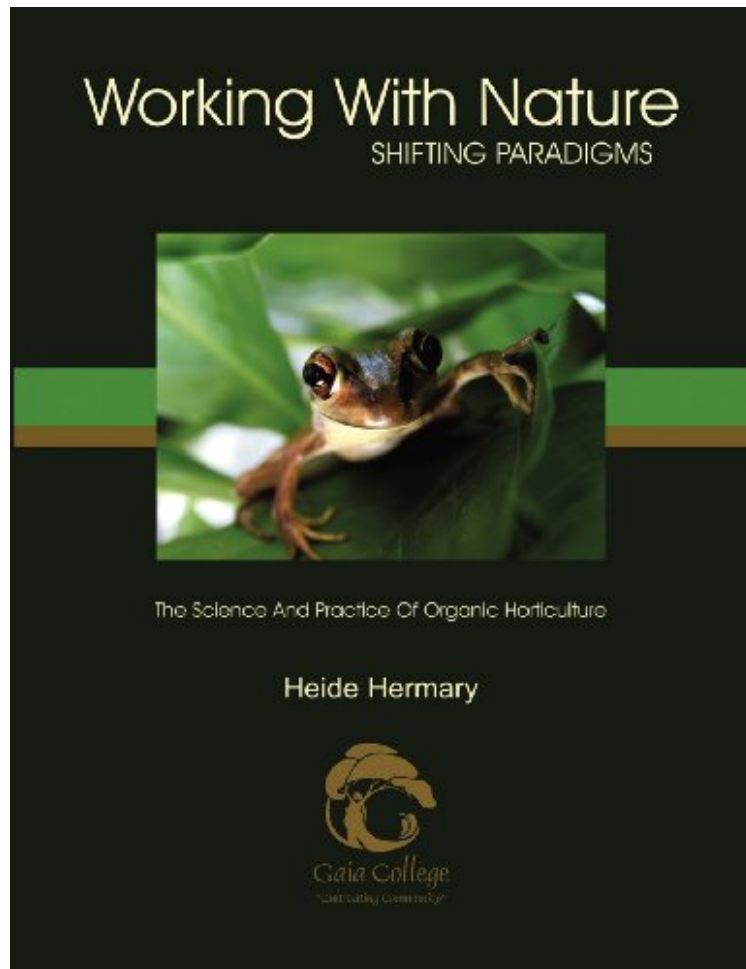


## Working with Nature

*Heide Hermary*

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**Heide Hermary : Working with Nature** before purchasing it in order to gage whether or not it would be worth my time, and all praised Working with Nature:

3 of 3 people found the following review helpful. Like No Other Gardening Book I Have Read Before By Laurie J. Neverman Working with Nature - Shifting Paradigms: The Science and Practice of Organic Horticulture was one of those books that had me jumping up and saying to my husband and boys, "Look at this!" The author, Heide Hermary, has opened my gardening world to a whole new range of ideas and possibilities. (Congratulations, Heide, you have indeed shifter my paradigm.) How is Working with Nature - Shifting Paradigms Organized? Working with Nature - Shifting Paradigms is divided into eight chapters: Relationships within Ecosystems Soil Relationships Water Relationships Working with Water Working with Soil Diagnosing Ecosystem Needs Working with Energy Working with Health In her introduction, Heide outlines some of the problems with the status quo, including: Contamination of our food supply with GMOs (genetically modified organisms) and chemical toxins. Decreasing biological diversity

and increasing ecosystem destruction. A food supply that is lower in essential nutrients. We are starving in a land of plenty. She suggests that we start asking new questions instead of simply attempting to find new solutions for the old questions. If we care for the land, the land will provide for us. It's a win/win. Highlights from *Working with Nature - Shifting Paradigms* The book contains over 200 pages densely packed with information, plus a bulging reference list for further investigation (there's literally a lifetime of investigation waiting for you here). I'd like to share some of the ideas that caught my attention. In chapter 1, Heide discusses Trade Alliances, that is, alliances between organisms that benefit both parties involved. Most of us are familiar with the pollinator/plant relationship, but I think many of us are unfamiliar with microbe and soil allies. She shares that all plant leaf surfaces are "naturally colonized by a great diversity of microbes that feed on the metabolic wastes excreted by plants". These microbes, in return, protect the plant from diseases, insects and possibly airborne pollution. Inoculating a plant with compost tea has been shown to protect a plant from aggressive plant eating bacteria. Have you ever heard of mycorrhizal fungi? Oddly enough, I first saw the term "mycorrhiza" years ago in a fantasy novel - "The Dragonriders of Pern". In that series, they adapted naturally occurring plant protectors found in the soil to protect and heal plants from an extra-terrestrial attack. :-). In our world, mycorrhizal fungi colonize plant roots. They then send out hyphae (branching filaments) into the soil (potentially miles of filaments) to gather nutrients from the soil that the plants have difficulty obtaining on their own. They trade these nutrients to the plants for carbohydrates. Pretty cool, huh? These fungi also act to protect the plant roots. They repel bacteria that would consume the roots. In fact, soil dwelling fungi have been used to develop commercial antibiotics. Basically, there is an entire ecosystem in miniature associated with every single plant. The healthier and more robust this ecosystem is, the more likely your plants are to thrive. Any time you disrupt this ecosystem - via tilling, applying chemicals (even fertilizers - many synthetic fertilizers are toxic to microbes) or introducing GMOs - you damage this ecosystem. Conversely, with the reintroduction of helpful microorganisms (such as the application of compost tea), badly damaged "worn out" soil can be healed. Another intriguing concept addressed in the book was biological transmutation. Heide describes how living organisms (animals, plant and microbes) can transform certain isotopes of some elements into specific isotopes of other elements. (Yes, some animals, plants and microbes have mastered alchemy.) This is relevant to gardening because it appears that within an ecosystem, certain plants don't simply grow well together as companions, they do so by providing for the needs of the system by transmuting the very elements available in the soil. I know this sounds pretty bizarre, but an example she gave was how calcium rich dandelions show up in calcium depleted lawns. I have always read that the dandelions have deep tap roots, which allows them to mine these minerals from deeper in the soil. (Heide notes the same thing.) However, in her horticultural experience, she has found that dandelions have roots that are not much deeper than grass roots. She asks the question, "Are dandelions depriving the grass of calcium, or are they producing (transmuting it) it?" She continues to state, "It looks like our war on unwanted plants, insects and microbes is costing us money twice; once to kill the organisms, and again to apply the nutrients that are now no longer provided by the ecosystem." I could go on and on - from debunking the myth that blueberries need acidic soil (they really just need the nutrients that are often available in such soils - pg 146), to pointing out the problems with drip irrigation (how can you have a healthy, diverse ecosystem in a soil that's starved for water? pg 82) to working with energy in the garden (chapter 7 - somewhat "out there" for many, but if you read it a lot of it just makes sense) - this book is a wealth of information. It's like no other gardening book I have ever read.

*Working with Nature - Shifting Paradigms*, brings together the science and research supporting an organic, holistic approach to horticulture. This book is a journey into the garden and the world as a whole in ways never likely seen or considered. The author has laid out many of the connections and processes at work when light, air, water, soil and life interact and transform the environment. When working in alignment with nature, many common problems never occur because one is not trying to go outside the natural laws that constrain us all. Instead of struggling to build and control a synthetic environment, one can now identify the existing environmental envelope and work with the natural forces to create and realize horticultural objectives. Once these relationships are seen, so many puzzles will disappear and many mysteries will now "just make sense".