6. The Ten Fundamentals

We gardeners, farmers and food growers are always looking for new technology, but a large body of information is already available to us. When I scan resources from A to Z, I find many interesting titles that are widely published and now available from Amazon books, Acres USA, ATTRA and various world wide web internet sites. I see a consensus forming. The material promotes certain ideas and concepts.

There appeared to be 8-12 main themes on soil management, natural fertility, cropping systems, etc. We adapted much of what we read in principle, adjusting for our particular tropical climate and clay

soil structure. We quickly learned which local substitutions were appropriate.

In order to present these topics to our growing number of students interested in natural farming and EM technology, we put it all together in a course we now call "Introduction to Sustainable Agriculture, Natural Farming in Palawan." The core of the course is now available in DVD format and can be ordered from our resources in the back of this book. In our seminars we teach the 10 Fundamentals of Sustainable Agriculture. The following chapters summarize what individual books can better cover. Crop rotation, legume usage, companion planting and composting are a few of them.

The main *principle* is to feed the soil. Inoculation is the *means* of quickly stabilizing your system. Through microbial action the plants will have all they need. The 10 Fundamentals tell you *how* to feed and manage the soil. These 10 building blocks will create a storehouse of organic matter that will become humus and give you better soil, hence better yields.

Active experimentation and a keen eye for details help the organic grower identify the best formulas and practices for his project.

Take note how each fundamental has variations, with certain schools of thought specializing in 2 or 3 fundamentals. For certain crop or livestock systems, we can

economize our efforts. For long-range sustainability, we need to practice these concepts till they become second nature. Integrate these schemes so that you know them by intimate practice, not just theory.

There is some overlap in my 10 fundamentals. In addition, I'm quite good at forcing other agricultural practices into one of them. However, I'm always learning new techniques and enjoy classifying them. For example, a legume in rotation with corn can be plowed under. You are actually double dipping. You are gaining fertility twice as fast. You see, the legume is fundamental #2, legume usage. Corn follows it, and crop rotation is fundamental #1.

Plowed under, it becomes a green fertilizer, #5, which is actually a form of composting, #4, done out in the field instead of in a pile. In addition, if your legume was clover or alfalfa, it qualifies as a cover crop, #7! See the incredible storehouse of fertility released when we learn to use these 10 basic strategies to our advantage?

If I were to arrange these farm practices in order of effort expended or energy spent, from low sweat to high sweat, this is how I would do it:

Subjective Ordering of the Fundamentals

(From least labor to most labor)

1. Proper crop rotation to beat the disease and pest cycle-

This one is a no brainer. Just plant different families of crops and you will eliminate many problems. God made us smarter than the insects for a reason.

2. Legume usage for nitrogen fixation-

Think free fertilizer! Select the proper species and you won't need chemical fertilizers. Let the nitrogen appear out-of-thin-air!

5. Companion planting (inter cropping) for insect control, etc.-

Low energy planning is all it takes. Then you won't need pesticides. Deciding which crops should neighbor each other is called companion planting. Planning which plants should follow each other is called crop rotation.

9. Insect Habitat for beneficial species; bait crops for the bad guys- This requires more planning for planting, but low energy to maintain because they are perennials.

Microbial Management with foliar spray and soil treatment etc.- Takes a little more effort and requires more management.

7. Cover cropping to conserve topsoil and moisture [living mulch-

More effort planting, but it won't kill you.

3. Green fertilizers to feed the next crop efficiently- Properly plowing a crop under takes considerable effort, but it's worth it!

8. Minimal Tillage- Preserve soil life and structure, save labor-

Deep digging or raising your vegetable beds takes some work on your part, but once the beds are established, you're mainly top dressing your compost and drilling your seed directly or transplanting. No more plowing!

6. Mulching to conserve topsoil and moisture-
This takes some work, gathering and spreading your cover over the exposed soil, but it saves you from weeding and watering.

The herb crew comes down the mountain with some Chinese parsley, Indian coriander and garlic chives.

10. Animal Integration -fertilizer source as well as food production-

Livestock takes some getting used to if you don't know a buck from a stud, but they are well worth the time and energy expended.

4. Composting to build up Humus [aerobic, anaerobic, vermicast]-

Compost is King. This is where the work will kill you, if you don't do it properly. Once you learn my methods, you will have more time to oversee the rest of your project!

You could also order these 10 fundamentals according to the economic value that you receive per man-hour of labor. For us it would be ordered from most valuable to least: 4-10-2-8-3-7-6-1-9-5. Think them though after you read the book. What other ways would you prioritize them? You could rate them according to nitrogen value, potassium, or other nutrients generated.

Let's examine each fundamental according to the order I teach them to everyday farmers. This order makes it easiest for me to convey these concepts. I build on each principle, one at a time. Then, once we grasp them, we can shuffle them around all we want. We will examine crop rotation first, because all the old farmers remember using this technique. It was popular at one time, but with mechanized mono cropping, it is less common. In the next chapter, you will see why this fundamental is important.

Lettuce greens and red radishes are rotated with 40 other vegetables, herbs and fruits to keep the production stable and the quality high. We use different radishes for salads and kimchi.

When you change the planting order and diversify, you are enhancing the natural resistance of your crops.

7. Crop Rotation

Proper crop rotation is *Fundamental #1*. It will beat the disease and pest cycle while promoting nutrient cycling. This is a forgotten age-old method to assure the health of future crops. It is of the utmost importance to minimize nutrient loss for long-range success.

When the same plant is continually grown in the same place, then the same nutrients are required. This will exhaust certain nutrients, depending on the crop. When different crops are grown in rotation, the nutrients, such as trace elements, will not be as quickly