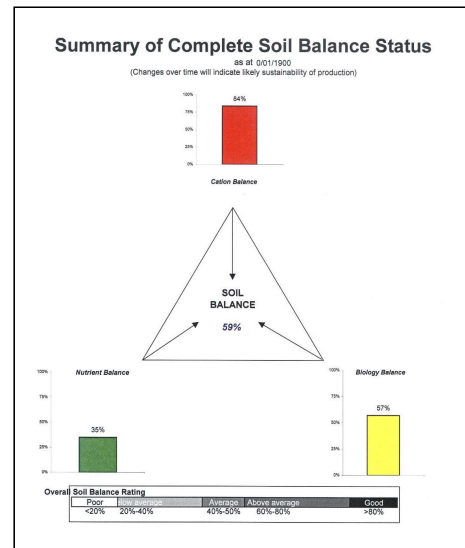


SWEFACTSHEET#12

Only 5 steps lead to Soil Health

This is surprising, because if you could see inside your soil, you would find a vast and complex ecosystem, every bit as diverse as any coral reef or rainforest, but of course sadly lacking in National Geographic filmmakers.



Just like a reef for forest, soil is a living system that is managed in more or less the same way. There is no need for soil to give you all the information you need. So how do you expect to do all the things that are needed?

As the same basic requirements and is or salesmen or self-made experts; you can do a simple process of 5 steps

Of course, the first of the 5 steps will be to identify any problems, which requires a soil test.

The second step involves improving the physical environment. The most important requirement for any living system is the physical environment that supports it. In a rainforest, we would talk about climate and geology, but in soil it is structure and friability. So optimising the physical environment in the soil is the most important of the 5 steps.

Soil may suffer from a range of problems. They may be quickly and drain poorly. Other soils compact easily or just also see soil that seal themselves off with a surface crust of plants.

Soft and sloppy when wet, waterlog set like concrete when dry. You might see deep cracks that tear the roots

The traditional view of such problems has been that the making up the soil cause all these things, and so is by

relative proportions of sand, silt and clay and anyone's ability to change them.

Fortunately, research done by Ted Mikhail, showed that a combination of five elements—Calcium, Magnesium, Sodium, Potassium and Hydrogen—work together to determine the functioning and friability of soil. We call this the “Cation Balance” of the soil and it is the first and most important of the three soil components in the Mikhail Soil Balance System.

The benefits of optimising the soil cation balance are substantial. With good structure and friability, the soil will be more tolerant of cultivation; it will retain moisture, but drain more easily and remain well aerated; it will provide better access to roots and availability of the nutrients they need.

In short, this one action will make all other aspects of soil improvement so much easier and continued for years. Now wonder it is the essential second step in our 5 steps to soil improvement.

The third step is to provide balanced plant nutrition, which forms the second of the three soil components covered by the Mikhail System. To do this we must start by finding out what nutrients are presently available in the soil and compare these to the needs of the plants we want to grow.

Clearly we will need to make up any that fall short of this requirement, but if the physical environment is functioning properly, there should be no need to use any more than this.

It is important, however, not to rush into this too quickly as Lime, Dolomite and Gypsum need time to improve the soil. Also, Lime and Dolomite can react with many fertilisers (especially trace elements) to render them unavailable to plants. For this reason numbers 2 and 3 of the 5 steps should be kept at least six months apart!

The fourth step relates to the third soil component in the Mikhail System—Soil biology. Achieving biological balance in the soil requires the application of appropriate bio-active materials after any disturbance, such as applying fertiliser or cultivation.

Having reached this point, all that remains is to keep a few things and use small top-up applications to maintain soil health and productivity. his last step is an important one, because more traditional approaches that rely on 'Rules-of-thumb' will keep recommending the same applications indefinitely—regardless of any changes in the soil or actual requirement. The objective with the Mikhail System is to develop a healthy soil that does not need continuous high input to remain healthy and productive. The strategy for improving any soil:

So this is the 5-step process that will provide a reliable

strategy for improving any soil:

1. Identify the cause of the problem

This should be fairly clear from your soil test results, but we have more information available to help you here.

2. Cations first

Appropriate applications of materials such as Lime, Dolomite and Gypsum to correct any imbalance, along with the time and moisture needed for the changes to proceed. To help understand this, we have put together some notes on how these materials are used for soil improvement.

3. Nutrients later

For properly balanced plant nutrition, the use of fertilizers should start about six months after correcting the cation balance.

4. Biology after every application

To help get the best results from each of the first two steps, using the appropriate bio-active materials after each cation balance or fertiliser application will speed up the whole process.

5. Monitor and Adjust

The effort and expense of getting your soil working right does not go on and on. Repeating the soil test on a regular basis will let you keep things working properly with only small 'top-up' applications, rather than waiting for everything to go back the way it was and starting again.