The Soilsmart Newsletter

Issue 9 June 2008

DEALING WITH RISING FERTILIZER PRICES - is using less an option

The past few months have seen a dramatic increase in the price of most fertilizer products and some chemicals, but just what's behind this upward trend. Earlier this year China, which has been a significant exporter of Nitrogen and Phosphorous fertilizers for many years, imposed dramatic new export tariffs (130% +) on fertilizer, in order to restrict exports and keep product in the country. Coupled with this, China, a net importer of Potassium fertilizers, agreed to pay huge increases (220%) to their Canadian suppliers to ensure supply and price stability for Chinese farmers.

Naturally other international producers have been quick to follow the trend, and with the devastating May 12 earthquake in Sichuan Province — a major production area for fertilizers — we believe that things haven't settled yet.

IS THERE ANYTHING YOU CAN DO TO MANAGE THESE INCREASES ?

Is using less an option? It may be, even though most soil managers believe that they aren't overdoing it.

We thought it might be useful to discuss how you might reduce fertilizer inputs without compromising plant health and production.

To put this discussion into perspective let's first consider an extreme example of a high production system using no fertilizer at all. In fact some of the most productive plant based systems on earth continue to grow and remain healthy without man's interference or the application of chemicals and fertilizers. What are they, native forests of course they are extremely productive, growing hundreds of tonnes of plant material per hectare every year. They can only do it with the assistance of a huge army of beneficial soil microbes that manage the soil the trees grow in. How can these tiny creatures have such an impact? In this natural system there are literally tonnes of beneficial organisms in every hectare of soil.

They maintain the structure of the soil so that it remains aerobic, preventing disease. They recycle all the dead and decaying plant material, converting it into Humus and stable organic Carbon to provide a habitat in which to live. They breakdown and release plant nutrients from minerals in the soil and from the decaying plant material. And whilst performing these tasks they store a significant amount of nutrients within their own bodily structures.

The cycle of life at this microscopic level is rapid and continuous and as each organism dies, it releases its load of plant available nutrients into the soil solution where can be picked up and utilised by plants.

This is also why newly farmed land grows strong healthy crops without the need for inputs. However after a few years of man's intervention the biology gradually depletes and soil health declines.

The general principal outlined in this example also relate to any highly productive system. In fact we constantly receive feedback from customers about reductions they are achieving, not only in fertilizers but in chemical inputs, water usage, or even being able to plough in a higher gear because of improved soil structure being created by improving soil biology.

Basically the better your biological soil profile, the greater your opportunity will be to benefit from a biologically based system and save in terms of input costs.

Building your biological soil profile can begin by using inoculants like Soil & Plant Tonic. The increase in beneficial soil life will quickly begin their many tasks, including the management of nutrient retention and release.

In sandy soils, or where there are low levels of organic Carbon, your focus should include building the soils' Cation Exchange Capacity (CEC), through the addition of quality organic amendments such as OziVerm or GranoVerm.

Liquid products such as BioGrow and Liquid Humate (Humus based compounds) can aid the building of organic Carbon and CEC without the need to open the soil .

Similarly products like Liquid Fulvate act as a natural chelation agents increasing the efficiency of fertilizers. Liquid Fulvate is stable organic compound which increases the efficiency of added fertilizer making it more 'plant available' and enabling you to use less to achieve the same result

NEMATODES – A QUESTION OF BALANCE

With the removal of some nematicides from the market there is understandably some concern about the ongoing management of turf and cropping soils which have traditionally had problems with nematodes, so we though it might be useful to put some perspective on the nematode issue.

There are a couple basic points to remember, firstly nematodes are a natural part of the soil eco-system, and secondly they're not all bad, in fact there are five functional groups of nematodes.

1) Fungal feeders
2) Bacterial feeders
3) Switchers
4) Predatory nematodes
5) Root feeders.

The last of these groups are the genuine bad guys, which can cause severe damage under the right conditions, however group 3 will attack roots if there are insufficient numbers of preferred food source, soil fungi, present. The real key to managing nematodes is balance, nature is built on the principles of balance and diversity, and if these groups are in reasonable balance they won't cause any problems, even when reasonably high numbers are present.

Unfortunately most of the nematode tests (not ours) limit themselves to looking for the bad guys only, so you never get to see the whole picture.

Of course knowing only the part of the story encourages the use chemicals to control the situation, and unfortunately these toxic compounds have a huge 'non-target' impact on many other soil inhabitants.

Invariably these chemicals will reduce beneficial organisms and affect soil structure. Ironically as soil structure declines, the soil becomes more anaerobic making conditions more suited to the root feeders, so they are always the quickest to return in greater numbers to dominate to an even greater extent. This is why if you ask anyone who has been using Nemacur for a long period if it has actually solved their nematode problem, the answer will be NO!.

There are a number of situations which cause the groups of nematodes to get out of balance, soil compaction and anaerobic soil conditions are a major cause because they favour root feeders in the same way they favour pathogens. Another common yet unrealised cause is a lack of food resources for the beneficial nematodes, particularly the fungal feeders. If the numbers of beneficial soil fungi are low, fungal feeding nematodes won't have anything to eat, and switchers will turn their attention to root feeding.

In the end the best defence against nematodes is to build and maintain biological diversity.

If you suspect a problem we suggest having a 'comprehensive' examination which includes all functional groups. Secondly if you are experiencing damage use a biologically softer product like (NemaGo Plus) which will give you immediate relief without decimating the rest of the soil population. Thirdly begin to rebuild the biological base to support the missing groups using Soil & Plant Tonic as your biological inoculant.

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