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CHALLENGING THE FERTILISER PARADIGM

“Paradigm” can be defined in several ways but essentially it is a description of how a group of people view something and/or how things function. On this basis, the current “fertiliser paradigm” summarises the prevailing mindset as to the reasons fertiliser is applied (including content and quantity) and its impact on the soil.

Historically, most fertilisers were natural organic products (compost etc). Today, most primary producers use manufactured, salt based, inorganic fertilisers offering the following advantages: water soluble, ease of handling and application, higher quantities of nutrient(s) per unit weight. Inorganic fertilisers have become the “fertiliser of choice,” facilitating land development and levels of productivity our forebears could only have dreamed about.

Clearly, there has been a major fertiliser paradigm shift to inorganic fertilisers. The modern primary producer has a choice but most often chooses inorganic fertilisers. Not that the latter are inherently wrong, provided the right natural balance is retained in the soil. Unfortunately, often this is not the case, with fertilisers supplying too much of some nutrients but not enough of others.

Associated with this paradigm shift, there has also been a subtle change in the way the soil is viewed. Rather than “feeding the soil to feed the plant,” we now seek to “feed the plant” directly. The dynamic complexity of the soil and the role it is designed to play in nutrient retention and transfer is either overlooked or under-emphasised. Instead, the soil has become little more than an inert nutrient holding medium.

What is the result of these changes? On the one hand, better productivity and economic return over the past few decades. On the other hand: fertilisers that kill or injure the essential biological life in the soil, nutrients that leach from the soil into water bodies causing environmental damage, plants whose growth has been boosted but which stock prefer not to eat because its quality is so poor, a sky rocketing animal health and veterinary industry and at the top of the food chain, humans eating tasteless “pseudo” food and becoming afflicted with all manner of health ailments, allergies etc.

Though human health is critical, the real bottom line is sustainability. Short term economic benefits obtained from the overuse of inorganic fertilisers, mean very little if the long term results are substandard food, poor health, a degraded environment and the destruction of the soil resource. Better to have production systems producing high quality food, which at the same time also enhance the soil resource. Such an approach gives the “best of both worlds” and fortunately, it is starting to become available in some of the more modern and innovative fertiliser systems available today.

If it is true that “we are what we eat”, then surely it’s time to challenge the prevailing inorganic fertiliser paradigm. Healthy plants, healthy animals and humans, and a healthy environment are not likely when the balance is not right in the source, the soil. Conversely, if the soil is functioning properly, then it follows that better quality plants, animals, food and a healthier human population living in a less polluted environment, should be the logical result.