How SWEP started

In June of 1980, after many months of frustration in providing farmers with only limited information (P, K, S, pH, & EC) through the free Dept. of Agriculture soil test, Ted Mikhail decided it was time for someone to do better.

"From all my research since 1968, I knew there was more to sustainable soil management than this, but everyone seemed to think farmers were just not clever enough to understand and make use of it," Ted remembers.

He decided to take a 'Leap of Faith' and establish the first private soil-testing laboratory in Australia - SWEP Analytical Laboratories. "It was very hard in the beginning," Ted says. "The concept of soil testing was so poorly understood."

It is interesting now to look back at some of those early soil tests and find that the only thing SWEP does now that was not on its first test report is the Calcium Chloride pH test. Of course, Ted's inspiration and drive was for farmers to be better informed and he found that just testing more things was not enough. "The value of a soil test relies on how the results are interpreted," he says. "The more things you look at, the more complex this process becomes."

Then, in 1982 a remarkable thing happened. Many of his clients had been complaining about Grass Tetany in their livestock and Ted set out to develop a treatment they could use. He came up with a simple nutrient solution that could be sprayed on the pasture, which proved highly effective - not just on Grass Tetany, but also with Bloat!

"After reviewing the soil and pasture tests from these clients, I quickly saw a common theme," Ted recalls. "It was not that there was too little Sodium or Magnesium and so on, but their relative proportions reminded me of something in my early research. It sent me back to review all my work on the relationship between soil chemistry and soil physics and it was this that led me to develop what we now call the Mikhail System."

Ted Mikhail
MSc., BSc Agric., Dip Land Recl. & Imporv., Dip Agric Ext.

The Mikhail System incorporates three components: Structure, Nutrients, and Biology (as it does today). It was the 'Bloat' experience that showed Ted clearly that cation balance and structure was not enough - without balanced soil nutrition as well the soil would not function productively.

In presenting this new system to his clients, Ted then developed the cation and nutrient balance graphs that have become the hallmark of a SWEP soil test, but it was not until 2004 that he was able to solve the problems associated with properly integrating soil biology into the Mikhail system.

SWEP continues to serve farmers who are seeking to be truly sustainable and Ted's original 'Leap of Faith' remains just that - an unquenchable faith that we are all here to serve a greater good. "I do not see SWEP as my laboratory", he says. "I am here to serve God and bring his wisdom to the farmers of the World."