

# *Agent Update* **Agent Update**

## **Soil Experts**

Often, when people look for advice on soils or farming, they turn to “experts” from overseas. Unfortunately, few realise that there are probably fewer than a dozen people in the World with the qualifications and experience to legitimately be called “Soil Scientists” and of these, some of the best call Australia home.

One of these is Ted Mikhail, Founder and Managing Director of SWEP.

Ted is a highly qualified Soil Scientist with more than 40 years experience in Australia and overseas. He worked with the Victorian Dept. of Agriculture – State Chemistry Laboratory – from 1968 to 1983.

A particular focus of Ted’s research over the years has been in the field of soil cation balance. The major outcome of this work has been development of the now widely adopted “Mikhail System”, which both sets out the desirable cation proportions (relative to the cation exchange capacity) and provides a methodology for effectively correcting any imbalances.

One important breakthrough that came out of Ted’s original research on Calcium-Magnesium ratios was that soils high in Magnesium set hard when dry, but when wet they behaved much like Sodic soils. In fact, Australian soils tend to be higher in Magnesium than those elsewhere and this is the reason why the threshold for Sodicity in Australia is 5% exchangeable Sodium and in North America it is 15%. The higher Magnesium means soils here need less Sodium to show up symptoms of Sodicity than American soils.

Another important finding was that Australian soils (largely due to their age) are especially high in exchangeable Hydrogen.

In North America the practice has been to estimate Hydrogen, using the pH of the soil and base cations as a guide. This may work well enough in the generally younger soils of that continent, but here it gives a significant underestimate.

Again, we have Ted to thank. In 1968 when a test for exchangeable Hydrogen became available, he was one of the first to recognise its value and adopt it. The result is a more reliable and effective system for Australian soils.

With such significant differences in soil and climate, is it any wonder that the colonists of the First Fleet nearly starved to death waiting for the Second fleet to arrive? None of their plants, livestock or farming methods would work here and it took a very long time indeed for us to learn how to farm in this country. In fact we are still learning.

Little wonder then that SWEP is so proud to be Australian and remains so dedicated to ensuring that Australian farmers have access to results from the latest and best research available as they continue to lead the World with effective and sustainable production.