

# Using Biology to Reduce Chemical & Water Use in Bowling Greens

Matthew Hamilton – Elanora Country Club – Terry Hills - NSW

Managing a turf surface to a world class standard is a demanding task - in bowling greens this means managing turf species at heights and under conditions that are very unnatural, and in most instances this also means the near constant use of chemicals to control disease and insects.

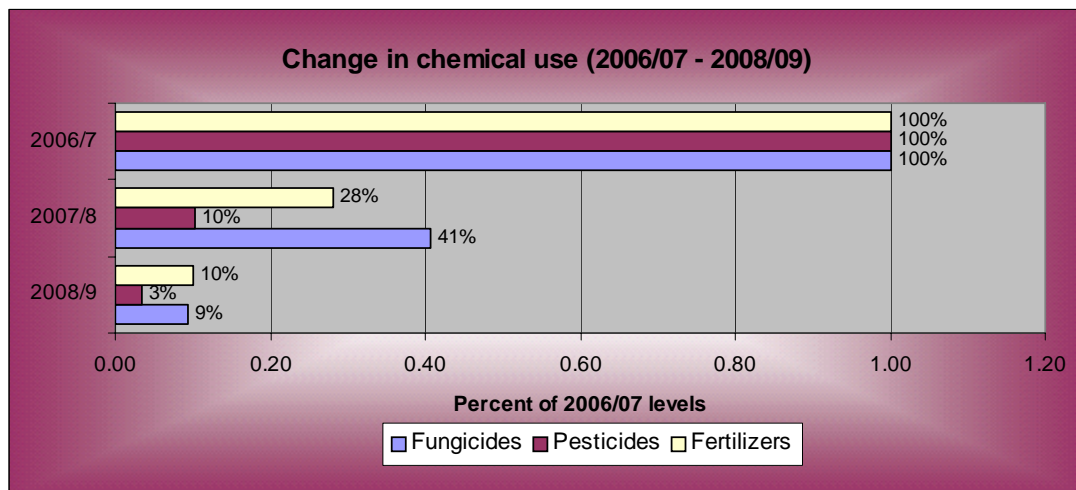
Matt Hamilton from Elanora Country Club in Sydney has made a concerted effort over the past three years to try and reduce his clubs' chemical inputs, and hence minimise his environmental footprint. Matt also wanted to minimise the chemical exposure to himself, his staff and for the club's members.

Matt was diligently managing pests and disease on the two bowling greens under his supervision, however deep down he knew that to a large degree, the chemicals he was using were simply masking the symptoms, and not really addressing the causes of the disease (why else would they continually reappear). After discussing some of the possible options, Matt adopted a more holistic approach to managing the greens at Elanora about three years ago, and moved forward ever since.

Matt started using Soil & Plant Tonic on a monthly basis to build biological activity and soil health. There was an immediate and positive impact during the first growing season **Spring/Summer 06/07**, but we discounted these results because it was an unusually dry year with lower than average humidity.

The **Spring/Summer of 07/08** was a much better test and the greens came through in a near disease free condition with much less chemicals needed. In fact when Matt sat down at the end of the 07/08 season to review his actual chemical use, he surprised himself at what he had been able to achieve, (Fungicides had been reduced by 60%, Pesticides by 90% and Fertilizers by 72%).

Last year (**Spring/Summer 08/09**) was an even harder test, being quite a wet growing season and from most reports a difficult year for disease in the area. Again Matt has recently sat down to review his inputs and discovered that he had **only applied fungicides on three occasions and pesticides once in the past twelve months.**



The benefits of the program have been numerous, Matt has achieved many of the goals, he has drastically reduced the chemicals being put into the environment, he has achieved massive cost savings and minimised the exposure to staff and members – but the most pleasing outcome has been the improvement in quality terms, root systems have never been so good, thatch is minimal and the need for irrigation has been minimised. In fact, in preparation for renovation last Spring Matt had to get the plumbers in to fix the irrigation system - **because he hadn't needed to use it for twelve months!**

Matt's management program includes a unique Soilsmart biological program to build soil health, and build soil Carbon levels. He also uses a combination of natural botanical products to help suppress pests such as couch fly, cut worm etc.

## The Soilsmart choice

Soilsmart products and technical services are specifically designed to help manage one of the most complex and diverse eco-systems on earth - the interface between the soil and the plants we grow.

Soilsmart products will help you to build a strong and balanced biological soil ecosystem, maintain aerobic soil conditions and develop a disease suppressive environment in the root zone.

### Biological Diversity

The plants we rely on to grow quality crops, turf surfaces and landscapes all evolved in the presence of, and rely on, a strong and symbiotic relationship with beneficial soil organisms which play a significant role in regulating the health of the entire plant/soil eco-system.

The key to success however is diversity - nature is built on it — consequently we have developed a range of products and programs that have a broad bio-diversity and offer long term benefit. They are also based around indigenous Australian biological species which are suited to our climatic and soil conditions.

Even small changes to your existing programs can improve biology and quickly translate into improved aerobic soil conditions and healthier and more resilient plants. These advances also result in more extensive and vigorous root systems and an increase in water use efficiency. Maintaining bio-diversity and balance also encourages the conversion and retention of minerals, increasing fertilizer efficiency and minimising the need for repeated applications.

Soilsmart products and programs allow you to stay ahead of pests and disease and offer a truly preventative approach to soil and plant health by:

- Building Organic Carbon reserves in your soil.
- Establishing a natural defensive network against disease and pests.
- Strengthening plant health and stress tolerance.
- Increasing fertilizer efficiency.
- Sustaining soil Oxygen levels.
- Reducing costs and improving risk management.

The science that enables us to measure and manipulate the soils' biological properties has advanced rapidly in the past decade, bringing about a much better understanding of how we can influence this very complex bio-system to our advantage. Soilsmart have maintained an association with and are accredited with organisations like The Soil Foodweb Institute USA, who are at the forefront of research and technology development in this important area of environmental management.

