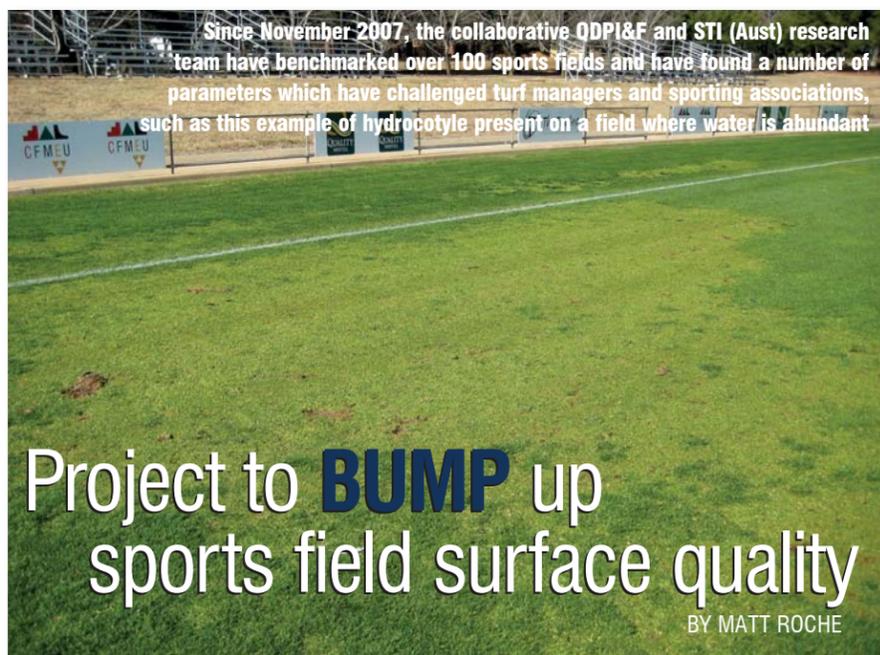


In 2007 the QDPI&F and STI (Aust.) began a two-year project to help improve the knowledge and capability of providing enhanced playing conditions of community-based sports grounds. QDPI&F research scientist Matt Roche looks at the project which to date has benchmarked over 100 sports fields across the country.

The halfway point of the winter sporting calendar generally coincides with a high level of pressure on a large majority of community based sports fields around the country. Changes in society, including population growth, higher housing density, reduced green space, changes in sport and recreational patterns and significant pressures on water supplies, have further strained sports field resources.

Whether a sports field is being utilised by junior rugby league matches or senior Australian Football League (AFL) teams, it is necessary to have it in a condition that offers adequate quality and, most importantly, safety.

Achieving improved accessibility, safety and quality of playing surfaces requires a clear understanding of the factors affecting the performance of the surface. These include



appropriate varietal selection, irrigation use, method of construction, levels of use and maintenance. This understanding is obtained by the process of defining, measuring and benchmarking.

To improve the knowledge and capability to meet user group needs, a two-year collaborative project is being undertaken by the Sports Turf Institute (Aust.) and the Queensland Department of Primary Industries and Fisheries (QDPI&F) Turf Research group, which started in June 2007.

The Horticulture Australia Limited-funded trial 'Best Use Modelling for Sustainable Australian Sports Field Surfaces' (shortened to 'Best Use Modelling Project' or BUMP) was initiated by Keith McAuliffe, executive officer of the Sports Turf Institute (STI), following similar work conducted in New Zealand in conjunction with eight regional councils.



To date discussions and/or preliminary works have been undertaken with several Australian local government authorities. A memorandum of understanding has been put in place between STI (Aust.) and Parks and Leisure Australia (PLA) to secure full national coverage and to have their input into the marketing and data collection components of the project. The linkage will also assist in providing a two-way flow of information between government authorities and researchers.

Long-term, the collected information and data will provide all parties with a greater understanding of today's sports field usage patterns and management requirements, assisting in future planning.

The concept of best use modelling for sports surfaces offers significant benefits to sports field owners/managers and the turf production industry. The Australia-wide collaborative project aims to:

- Provide participating organisations (councils, sports clubs and schools) with an audit report from an independent expert outlining and benchmarking current sports field characteristics and documenting limitations to performance (accessibility, quality and safety);
- Produce a summary report on the cost benefit analysis of various sports field development options (e.g. suitable turf selection, rootzone amelioration and irrigation systems) including the expected usage capabilities of each option;
- Derive a self-assessment tool to guide councils in determining best management practices and optimal allocation of resources for upgrading or maintaining playing surfaces;

- Clearly define measurable customer requirements, which can be used as a basis for (and drive) the turf industry's product development programme; and
- Develop a national database using the recorded information on sports field performance.

At participating sites a history is collected and surface quality benchmarking is conducted. The history contains detailed information about the construction, management, maintenance and usage of each of the sports fields selected for inclusion. The benchmarking study is run by research and technical staff from STI (Aust.) and QDPI&F Turf Research. The range of tests undertaken to date includes measuring:

- Water infiltration (using an infiltrometer) to assist in identifying trends and variances (such as the impact of organic matter or soil compaction within the soil profile);
- Ground hardness (using a Clegg Impact Soil Tester) indicating the shock absorbency of the turf/soil surface;
- Visual soil compaction assessment, texture analysis (between horizons), thatch and rooting depth, and mottles assessment (using a 50mm soil sampler) to determine if there is an oxidation-reduction process occurring within the profile;



As part of the programme, the rootzone is assessed at predetermined locations

- Species composition e.g. turf and weeds present (with a 0.25m² quadrant);
- Percentage soil moisture (using a Theta moisture probe) highlighting irrigation or construction issues; and
- Vertical penetration and transitional shear resistance of the turf surface (using a Going Stick).

The series of benchmarking tests are conducted at pre-determined locations across a field depending on what sport is being played. Different test locations are selected for different sports due to their field usage patterns.

Since November 2007, the research team has benchmarked over 100 sports fields in

various states and territories across Australia. To date STI (Aust.) and QDPI&F Turf Research staff have observed a number of sports surface parameters which have challenged turf managers and sporting associations.

Commonly, high usage, poor irrigation uniformity, unfavourable species composition and compaction are problems at single and multi-use venues, impacting on the quality and safety of surfaces. On the positive side, many of these problems can be corrected over time, providing sufficient support, education and much-needed resources are available.

A study such as BUMP delivers the opportunity for an independent group to be involved in identifying the strengths and weaknesses of each field tested. This will enable the organisations involved to change their practices to get the best out of their facilities. In doing so, they will be providing their local community not only with sustainable sports fields, but with the opportunity for a healthy active future.

For further information or for an opportunity to have your council, organisation or sporting club involved in the pilot study, please contact either Keith McAuliffe (kmc30745@bigpond.net.au), STI (Aust.), or Matt Roche (Matt.Roche@dpi.qld.gov.au), QDPI&F.