



Final Report

Industry Development Services for the Queensland Turf Industry

Richard Stephens
Turf Australia Limited

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TU13029

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SUMMARY

Turf Queensland's (TQ) key priority is to ***"Sell More Turf Profitably"***. While there are approximately (some small farmers unknown) 130 turf producers throughout the state from Far North Queensland to the NSW border turf Queensland has 57 members who are estimated to produce 85% of the turfgrass sold in the state. The remaining turf producers are small family owned 10 acre farms or less that generally produce for their immediate local market.

Jim Vaughan was employed in the position of Queensland Industry Development Officer covering a minimum of 40 days per 6 month milestone.

In 2012, the turf industry developed a Strategic Investment Plan for 2012 – 2017. This Strategic Investment Plan (SIP) involved widespread industry consultation and resulted in six strategic objectives:

- Grower Business Capability
- Communications and Extension
- Environmental Sustainability
- Market Knowledge and Market Development
- Industry Capability, Resources and Data
- Biosecurity.

The SIP identified that the Turf industry really is different from the 40 other horticulture industries working with Hort Innovation, Turf is truly unique as;

- Growers are more than often the entire supply chain
- Their-purchase' frequency is low
- The nature of the competition, IE strong competition between: growers; turf type and variety; price; hardscapes (IE pavers).
- Turf has social, considerable health advantages and increases real estate values.

NB: Importantly natural turfgrass is a proven environmental control medium and needs education, awareness and promotion to the specifiers to assist in controlling environmental impacts especially on the Great Barrier Reef in Queensland.

The project budget included voluntary contributions of \$178,830.22 supported by industry levies of \$44,707.56 (20%) making a total budget for the project of \$223,537.78

Annual Operating Plans (AOP) for 2014, 2015 and 2016 were developed providing such detail objectives, timelines, actions, resources, expected outputs and outcomes, turf production sector communication activities and deliverables confirmed and incorporated into the AOP approved by the appointed steering committee.

Steering committee consisted of 4 people:

- Anthony Heilig Pres of Turf Queensland.
- Ross Boyle Vice President Turf Queensland and Pres Turf Australia.
- Richard Stephens Business Development Manager Turf Australia.

- Jim Vaughan Industry Development Officer Turf Queensland.

The Annual Operating Plan was the blueprint for achieving the outputs reported in 6 monthly milestone reports on activities and achievements for the corresponding period. The AOP was reviewed and updated as directed by the appointed project steering committee. All milestone reports complying with Hort Innovation requirements were provided to and approved by Hort Innovation.

The milestone reports covered collaboration activities with growers and the production sector promoting improved business practice, farm management quality systems, communications and extension, grower and community environmental sustainability, industry leadership and use of essential data and industry capacity to respond to bio security issues.

The industry communications activities involved at least 4 state wide industry seminars/workshops with state-based Queensland newsletters providing industry news and the development of 4 Queensland industry-based fact sheets and case studies surrounding the use of best practice benchmarking, nutrient sediment movement and erosion control. A number of You Tube videos were also developed and placed on the website.

www.gtpa.com.au

A list of 6 outcomes was included in the project. These were all achieved.

Ongoing monitoring and evaluation was undertaken through on farm visits, numerous telephone calls and ongoing email communications.

It is recommended that there is continued support for the industry development program in each state due to the variation applicable for those areas in climate, species, regulation and legislation that turf producers operate to.

Also the education and awareness programme provided for the use of natural turfgrass by regional councils, state government, landscape architects, erosion control engineers, NRM and Landcare groups and schools on the many benefits of natural turfgrass in erosion nutrient and sediment run-off control.

KEYWORDS

Turf Queensland; Industry Development; Turfgrass, Precision Agriculture; Water Sustainability; Irrigation; Drought; Flood; Workshops; Education and Awareness; Health and Wellness, Engagement.

INTRODUCTION

The turf producers Association in Queensland commenced in the year 2001 under the name Queensland Turf Producers Association (QTPA). It later changed its trading name to turf Queensland in line with the Turf Australia branding. Turf Queensland is an independent Association with its own board and financials and recognised in Queensland as the industry peak body. The Association was developed to provide unified voice to industry and government.

The turf production demand chain affects and touches all our lives in some way, be it through tourism, building and construction, environment, clean water, sports and recreation, open space parklands, health and lifestyle, infrastructure or landscaping.

The Queensland IDO project was instigated to support the national IDO network and ensure statewide extension and coverage of turf related programs and related information for the benefit of the Queensland turf producers that differ from state to state.

There is over 18,000,000 m² of natural turfgrass grown in Queensland alone. There are approximately 130 turf grass producers across the state some very small. The Turf Queensland membership of 57 would provide approximately 85% of the turfgrass sold in the state. A recent Queensland Government 'AgTrends' report 2016-17 includes the latest economic forecasts and trends in Queensland agricultural and fisheries production. The majority of Queensland turf farms are located within a 50 -100 km distance from the coast, except for 2 major turf farms in Emerald and Toowoomba. We have turf producers from as far North as Cooktown down to the New South Wales border all varying in size.

- Queensland Turf Production: 2016-17 \$185 million GDP. (Averaging \$145 million over the past 4 years)

This Hort Innovation project was undertaken to cover 6 strategic objectives developed under the 2012 2017 Strategic Investment Plan (SIP) with the following objectives:

1. Grower Business Capability.
2. Communications and Extension.
3. Environmental Sustainability.
4. Market Knowledge and Market Development.
5. Industry Capability Resources and Data.
6. Bio Security.

It is clearly understood that the various state associations are the ones closest to their turf producers in that state and therefore were in a strong position to communicate, obtain information on market knowledge, market development, industry capability, WH&S, available resources and data along with the various bio security regulations and state government based legislation to assist the turf producer.

Turf producers are a unique lot, they are different to most other horticultural industries as the growers are more than often the entire supply chain from growth through installation and invoicing. Repeat orders are frequently low with the competition coming from other growers with diversity of turf species and varieties, no set pricing structure and of course hard scapes such as concrete, pavers and aggregate. On top of that the competition with synthetic fake turfgrass heats up from time to time.

There are 4 main areas surrounding successful turf production:

1. Sun.
2. Water.
3. Soil.
4. Climate.

Queensland has unique climate conditions supporting turf production with tropical and subtropical areas this shows a diversity of soil, climate, and turf species grown. For example the hot sun of the tropics dictates a certain species that requires water and will grow in shade, the salt tolerant grasses are required close to the coast and high activity areas require different varieties to name a few.

Turf Queensland subcontracts its work to an independent contractor who is responsible for the day to day running of the Association led by the Turf Queensland President and board. This sub contractor runs the industry development project for the Queensland turf industry working a minimum of 40 days per 6 monthly milestones (generally more) under an approved Annual Operating Plan (AOP) and has extensive experience and ability to communicate, consolidate, develop and market the turf production industry in the state.

A high priority for Turf Queensland is visiting turf production facilities face-to-face on a regular basis to communicate, educate, and consolidate issues and views in line with Turf Queensland's policies to maintain currency such as:

- Determining the most efficient process to deliver the information to the industry (preferably face-to-face) in a simple format understood by the grower that would achieve maximum benefit, appropriate timing in relation to seasonal work commitments and in appropriate locations to reach maximum targeted audience.
- Project manage by developing an efficient program for the planning and completion of the task in the required time frame and within budget. Identify the appropriate program content by conducting the necessary research to determine the most appropriate program to achieve the goals of the task.
- Obtaining and providing expert industry information that is relevant, innovative and informative where required for further action by the grower.
- Develop up to date marketing and extension activities for the benefit of the turf producers in Queensland.

METHODOLOGY

Our methodology as per the Annual Operating Plans agreed to by the members of the AOP steering committee (Anthony Heilig Pres Turf Queensland, Ross Boyle Pres Turf Australia, Richard Stephens Business Development Manager Turf Australia, Jim Vaughan Industry Development Officer Turf Queensland) for the Turf Queensland's Industry project TU13029 that included the following outputs in line with the 6 objectives:

- A. Engagement where and when possible with the turf grower & maintenance sectors in Queensland preferably face-to-face.
- B. Ongoing engagement with other related industry peak bodies.
- C. Development of an appropriate Turf Grower and Turf Maintenance communications program and input into national industry communications
- D. Development of strategies and implementing programs of improved Biosecurity surrounding the issue of Red Imported Fire Ants (RIFA) here in Queensland.
- E. The development of water and energy use efficiencies within the turf production environment.
- F. Provide appropriate workshops and field days with subject matter of interest and current to the turf producers.
- G. Input and promotion of Queensland turf growers industry training programs to suit individual grower needs that vary due to Queensland's diversity in climate.
- H. Targeting the education and awareness of the main turfgrass specifiers across the state covering nutrient and sediment run-off and erosion control utilising turfgrass.
- I. Development of strategies and implementing programs for improved environmental sustainability, grower profitability, reduction of waste and improved workplace practices.

The important decision making process of delivery was undertaken jointly with the steering committee, the Turf Queensland board and Turf Australia. Through the proven process of information for direct on farm visits and regular telephone discussions, turf grower updated information to grower requirements were always discussed and noted for any future action:

The main industry development was undertaken through face-to-face on farm visits, workshops/seminars/field days and communications through various publications such as Turf Alerts, Fact Sheets and Case Studies. This was included in the development of the AOP for each year.

The following activities, communications and turf sector engagement are commented on below.

QUEENSLAND TURF INDUSTRY DEVELOPMENT 30/5/14 – 31/5/17:

ACTIVITIES and TURF SECTOR ENGAGEMENT

During the period of the project a variety of educational events were conducted with the main focus of offering learning opportunities for stakeholders, promoting professionalism in the industry, development of skills and providing resources for new technology, regulations and general industry information. An Annual Operating Plan was developed for each year and approved by the steering committee to maintain currency.

Farm Visits:

284 direct face-to-face on farm visits across the state were considered the most valuable.

As a result of Turf Queensland's water and energy efficiency program, 11 individual meetings with farmers and suppliers surrounding the use of granular, soluble and liquid fertiliser specifications to improve productivity, cost control and a reduction in waste was undertaken. This area has many diverse segments to investigate to ensure the right fertiliser and the cost benefit for the diversity of specific farms.



Professional DVD development commenced on farm with equipment suppliers and farmers with existing raw footage previously collected on farm being utilised where required it is targeted to have 6 DVDs developed in You Tube configuration for the Turf Queensland website. (www.gtpa.com.au)

Distribution of a free Workplace Health and Safety booklet and DVD entitled "Serious About Safety" that included the appropriate on farm safety documentation to cover the latest legislation was provided to the turf production sector. 60 of these booklets/DVDs were delivered to turf producers across the state. Many turf farms have utilised the content to develop their own WH&S policies and procedures. Further copies could be obtained from the Queensland Department of Justice and Attorney General, Workplace Health and Safety office (www.worksafe.qld.gov.au)

Discussions continue surrounding concessional registration and load restraints with the new Queensland government Department of Transport. Negotiations were undertaken for the

benefit of all Queensland turf producers and turf production declared a “**Primary Producer**” by the Queensland government. The Queensland turf industry has been recorded in Hansard as a **Primary Producer** providing various benefits to the Queensland turf grower as there is considerable debate surrounding this issue by the Department.

The high number of activities for the period 2014-2017 was as follows:

1. On-farm face-to-face meetings have proven without a doubt the most productive method of supporting the turf producer and over 284 visits (approximately 47 every 6 months) were undertaken to turf growers through the life of the project. Turf Queensland visited its constituents at least twice per year providing access to other departments and non-government organisations across the state.
2. 23 individual on-farm Toolbox meetings focusing on satellite and on ground mapping, moisture monitoring, water and energy efficiency.
3. 3 workshops were undertaken across the state “*Staying in the Green Cost of Production*” (14, 22 July, 29 July,)
4. 3 annual x 1 day on farm Workshops/Field Days 2015-2016-2017 were presented to Queensland turf producers on Precision Agriculture, NDVI, VRI Sprinklers, Irrigation, Drones EM38 soil mapping and Robotics. (April 2014-68 Attended, July 2015-43 attended and May 2017-52 attended).
5. Other workshops include State Forum September 2016, Workplace Health and Safety workshop August 2015, SafeChem workshop February 2017.



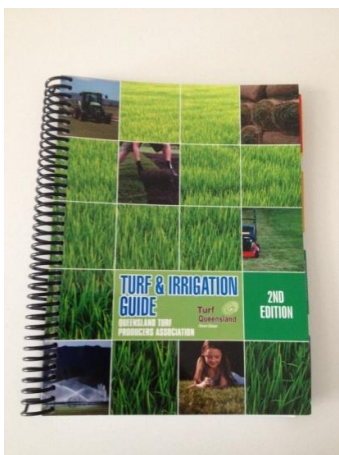
6. Turfgrass profitability seminar in conjunction with Turf Australia held on the Sunshine Coast with 37 attendees in August 2014. This seminar was considered a great success by all who attended in the exit survey.
7. Phone strategy workshop held for grower support held on 24 Oct 2014. (Attended by 32) The exit survey showed 92% considered it highly valuable and learnt things to implement.



8. Development of particular Fact Sheets surrounding the water shortage issue and Residential Lawn Care and Maintenance of Warm Season Grasses due to water shortages in North Queensland. (Listed in Attachments.)
<http://www.gtpa.com.au/fact-sheets/>
9. 2 Case studies on natural grass averts environmental disaster and delivery vehicle analysis were developed. Refer list.
10. Workshop (May 2015) on turfgrass awareness with the Townsville City Council in support of turf producers on water restrictions affecting productivity potential. Townsville is currently under restriction level III that does not allow for watering of turfgrass. In the hot tropics establishment of turfgrass requires 3 waterings per day morning, noon and night, so this obviously restricts production and sales.



11. Investigation into scheduling irrigation programmes with the University of Southern Queensland NCEA to assist with water efficiency on-farm. A number of turf producers have taken up this Moisture Monitoring Mobile App to manage their irrigation both on-farm and away from farm.
12. Facilitated natural turfgrass supply and display installation on main stage and attendance at the International Horticulture Congress in Brisbane on 17-18-19-20-21 August to 2014. Turf Queensland members supplied and laid the natural turfgrass for the floor of the main stage and provided a speaker on the use of turfgrass in erosion control.
13. Negotiations with Turf Australia and other states on adaption of the Turf Queensland Turf Irrigation Guide to roll out around Australia. Proposal was not successful



14. Ongoing education, awareness and promotion on the uptake of the Turf Accreditation Program (TAP) with producers and specifiers. 15 Turf Queensland members were accredited through the three-year life of the project. Accreditation is only open to Turf Queensland members due to control and 22 have been accredited.



15. Biannual Meetings with the Queensland Department of Agriculture and Fisheries on the Biosecurity on issues relating to turf production and the Red Imported Fire Ant (RIFA) threat. On-site turf installations are the main area of concern for fire ant identification and members trained accordingly. The Department also displays their RIFA awareness unit at Turf Queensland workshops and field days.



16. Meetings with office of the Great Barrier Reef, Department of environment and heritage protection and the Department of agriculture and fisheries to discuss the potential of turf grass in erosion control. An Expression of Interest was developed and presented on innovation highlighting awareness and training of innovative management practices in the Great Barrier Reef catchment for reduction of nutrient and sediment targeting specifiers. At this time no results available.



17. The graphics above and below shows the effect on overland flow run off after various erosion control methods have been utilised. Full turf came out well on top at construction sites and controlled demonstrations when measuring Turbidity and Water Clarity during trials.



18. Numerous meetings with various government departments regarding productivity improvements, water sustainability, WH&S and regular updates for profitability and improved business best practice programs to suit the turf grower. Outcomes produced a WH&S awareness program for turf producers, focus on water and energy efficiency providing increased productivity, reduced waste and cost.

OUTPUTS

The Outputs for this project are substantial for the three-year time frame for the project. They include:

Direct face-to-face engagement from the Queensland Turf Industry: as a result of biannual visits across the state each turf grower was visited and allowed for contact with regional councils and specific industry organisations and NGOs.

🌀 The Turf Queensland turf grower and customer base includes the following and are visited on a regular basis.

- Turf Production Farms across Queensland.
- WH&S – QLD this included WorkCover and Health and Wellness organisations
- Healthy Waterways. (Erosion control and clean water catchments)
- Office of the Great Barrier Reef. (Great Barrier Reef lagoon protection)
- Great Barrier Reef Marine Park Authority. (Reef Guardian applications)
- Brisbane Development Authority.
- Australian Landscape Industry Architects. (Specifiers of natural turfgrass)
- Turf Australia (national turf industry body)
- Turfgrass Western Australia. (Independent state Association)
- Turf New South Wales. (Independent state Association)
- Turf Victoria. (Independent state Association)
- Nursery & Garden Industry, QLD. (Related green space Association)
- Growcom Qld. (Related industry Association)
- Australian Golf Course Superintendents Association (turfgrass user and specifier)
- Horticultural Training QLD (turf industry all will all be there are all RTO)
- QLD Department of Agriculture and Fisheries (
- QLD Department of Transport
- Queensland Department of Education. (
- QLD Department of Environment and Heritage Protection. (Erosion nutrient and sediment protection)
- Queensland Department of Natural Resources and Mines. (Water and energy)
- QLD Natural Resource Management Groups. (NGO's related to water and erosion control)

🌀 Universities were contacted on a number of research projects that they were working on that related to the turf industry in particular water and irrigation. Robotics is an area that a number of universities are involved in.

- University of Queensland. (Visited 4 times)
- Queensland University of Technology. (Visited 6 times)
- University of Southern Queensland. (Visited 8 times)

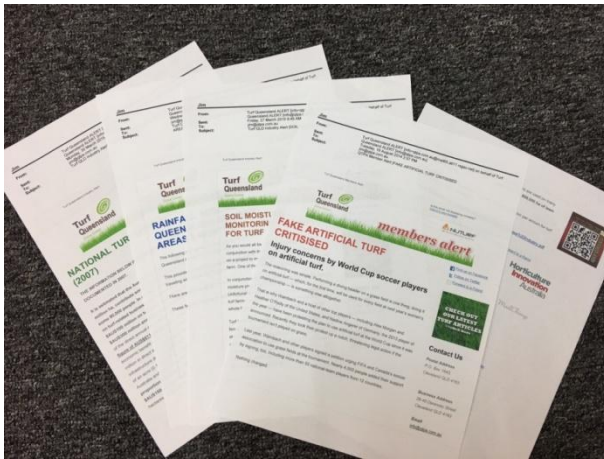
🌀 The following regional councils were also visited during the biannual state wide visits mainly on the eastern seaboard.

- Redland City Council
- Ipswich City Council.
- Brisbane City Council
- Logan City Council.

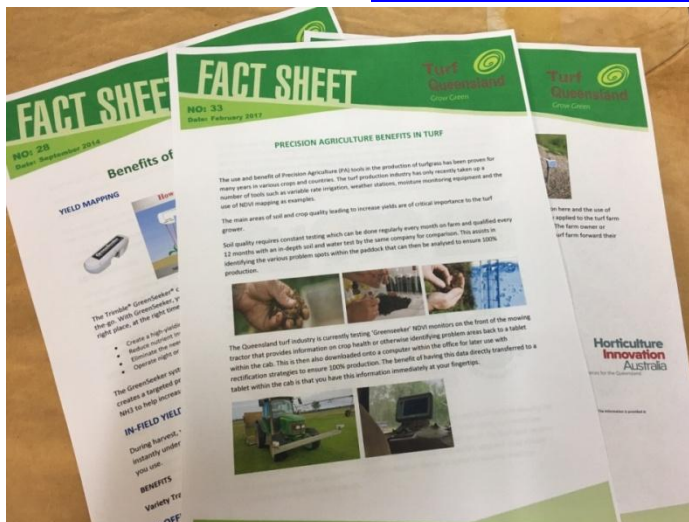
- Burdekin Shire Council.
- Livingstone Shire Council.
- Gladstone regional Council.
- Lockyer Valley regional Council.
- Gympie regional Council.
- Gold Coast City Council.
- Townsville City Council
- Cairns City Council
- Sunshine Coast Regional Council
- Mackay Regional Council
- Fraser Coast Regional Council
- Whitsunday Regional Council
- Tablelands Regional Council
- Moreton Bay City Council
- Scenic Rim Regional Council
- Cassowary Coast Regional Council.

Industry Communication

- 284 direct on-farm face-to-face visits over the life of the project across the state.
- 197 of our Turf Alert communications publications were produced and distributed over the life of the project.



- 23 fact sheets/2 case studies were developed and distributed through the life of the project and are available on the Turf Queensland website for the total industry to review if and when needed. <http://www.qtpa.com.au/fact-sheets/>

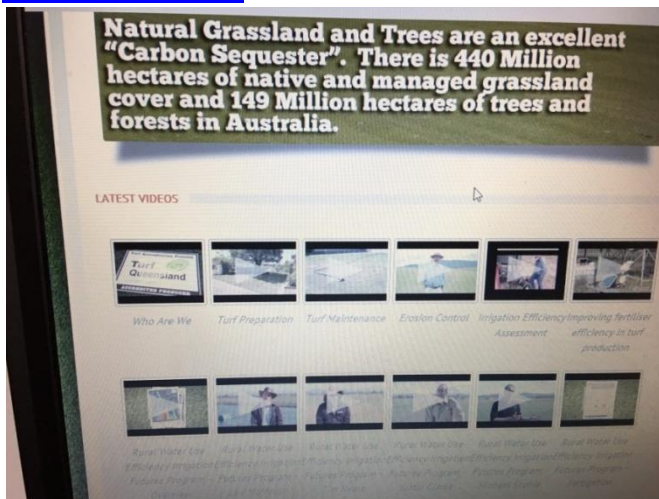


- 18 bimonthly editorials submitted to TurfCraft industry magazine for publication.

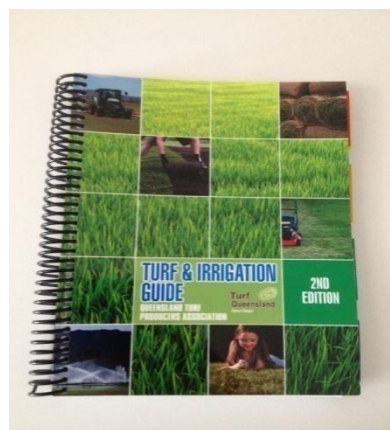


- 6 You Tube videos produced as part of the project and available on the TQ website. These videos are available on the Turf Queensland website homepage

www.gtpa.com.au



- Bi-monthly reporting for industry publications to Turf Australia magazine distributed to industry.
- Continued promotion/distribution of the Turf Queensland "Turf Irrigation Guide"



Seminar, Field Days and Workshop Delivery

- International Horticulture Congress August 2014. Turf Queensland was involved from conception and laid natural turfgrass on the main stage that was used throughout the Congress. Turf Queensland presented on erosion control utilising natural turfgrass and attended the Congress.



(August 2014)

- 6x Staying in the Green (turf cost calculator) Workshops across the state in Cairns, Townsville, Mackay, Bundaberg, Nambour and Redlands.



(22 & 29 July 2014)

- DAFQ Red Imported Fire Ant display at all workshops/field days.



- Telephone Sales Workshop Brisbane Novotel-32 attendees.



(24 Oct 2015)

- Cost calculator and accreditation workshop Mackay



(May 2014)

- Regional turf cost calculator and accreditation workshop Townsville



(May 2014)

- Regional turf cost calculator and accreditation workshop Cairns



(May 2014)

- Australian Lawn Concepts Field Day in Workshop-Precision Agriculture-68 attendees



(April 2014)

- GFL NDVI workshop

MAPPING/NDVI workshop -43 attendees



(July 2015)

- PRECISION AG workshop May 2017 - ON FARM DEMO-Drones/Centre Pivot/Swarmfarm robot demo/Sprinklers and innovation in new Slow Release Fertiliser. 52 attended.



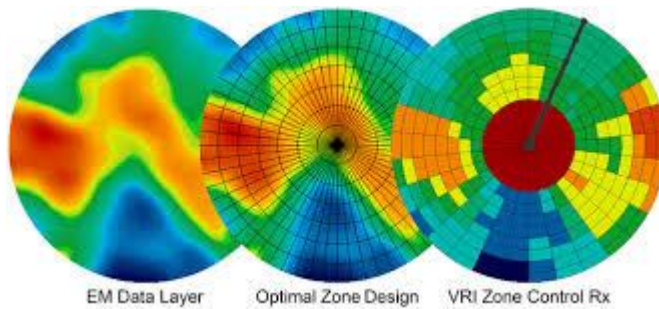
(May 2017)

- Swarmfarm weed robot demonstration at Emerald.



(22 March 2016)

- Variable Rate Irrigation tested on 5 pilot turf farms across Queensland. Cairns, Mackay, Lockyer, Gatton, Beaudesert.



- VANDERFIELD/JOHN DEERE workshop display at Golden Finch Lawns VRI Workshop.



(May 2017)

OUTCOMES

This Hort Innovation project was undertaken to cover 6 strategic objectives developed under the 2012 2017 Strategic Investment Plan (SIP).

1. Grower Business Capability
2. Communications and Extension
3. Environmental Sustainability
4. Market Knowledge and Market Development
5. Industry Capability, Resources and Data
6. Biosecurity.

It is pleasing to advise that the Turf Queensland Industry Development Project has resulted in significant outcomes benefiting turf producers and the maintenance sector alike. These outcomes include:

1. Grower Business Capability

- a. Education awareness and promotion of the Turf Queensland Turf Accreditation Program (TAP) with uptake from specifiers such as regional councils and landscape architects occurring.
- b. Various business seminars and workshops (phone strategy, cost calculator WH&S) held across the state to accommodate grower need and location diversity.

2. Communications and Extension

- a. Developing a stronger working relationship with Turf Australia for communication, and industry development programs through regular state Teleconferences.
- b. Increased communications and awareness of regional and local government through distribution and updated promotion of turf production facts and figures annually (state Ag-Trends)
- c. Turf Queensland exposure and awareness through editorials readily submitted (bimonthly) to various industry magazines.
- d. Turf Queensland's "Turf Alert" process is highly valuable in distributing information applicable to TQ members in real time that would normally not be available.
- e. Precision Agriculture and innovation has been promoted through a number of Workshops/Field Days to assist the turf industry in looking forward with their on farm investments.
- f. 23 Fact Sheets and 2 Case Studies were developed through the life of the project and achieved 4,168 hits in nine months (October 2016 – June 2017) on the Turf Queensland website

3. Environmental Sustainability

- a. Ongoing water and energy use efficiency programs have assisted through the development of case studies and extension to turf farmers for their own knowledge of on farm irrigation and energy use.
- b. Increased awareness of turf growers across the state of attention to detail with irrigation, pumps in particular turf, water and fertiliser wastage to improve yield and increase profits appropriate efficiency programs.

4. Market Knowledge and Market Development

- a. Increased engagement directly with turf growers through valuable biannual on farm visits and the Turf Queensland communication program providing Turf Queensland with a much clearer understanding of what are their main issues which are diverse depending on location and climate.
- b. Phone skills workshop provided turf producers with exposure to skills that will develop a more professional approach to their phone sales and tools to identify exactly what are the customer's needs.

- c. Increased turf production education and awareness with government departments resulting in a far better understanding of the Queensland turf production industry and its benefits.

5. Industry Capability, Resources and Data

- a. Improved updated data currency with direct information provided at on farm face-to-face meetings.
- b. “SafeChem” workshops were undertaken on an as needed basis to support the need for chemical licences as required by turf growers.
- c. Education and awareness on the innovation that is occurring within fertilisers and herbicides to assist in upgrades and improving yield and reducing waste.

6. Biosecurity.

- a. An increased capacity for industry response to Biosecurity issues and environmental factors through direct TQ representation on government committees.
- b. Turf Queensland involvement with Department of Agriculture and Fisheries (DAF) Red Imported Fire Ant (RIFA) Department.

EVALUATION & DISCUSSION

After reviewing the success of the project with the steering committee and other turf Queensland members the project success can be measured by achieving the following to assist Queensland growers.

a) Turf grower engagement.

Turf Queensland had a policy of visiting turf growers and meeting with them face-to-face. This addressed many issues from the grower’s perspective and the industry perspective. When sitting opposite the grower you obtain truthful approaches to issues facing them on farm as well as collection of data which can be muddled on the phone or by email.

On the return visits a review of discussions held previously and actions taken were discussed and achievements noted any further assistance was provided.

This has proven highly successful throughout the project and remains a standard policy and procedure for Turf Queensland. This process has proven highly valuable over a number of years. A total of 284 on-farm visits occurred through the project. Turf Queensland provides a workshop and field day on an annual basis to address current issues the latest being precision agriculture.

On farm visits are highly beneficial and successful and has been proven by separate independent reports, industry surveys and reviews. This independent survey was undertaken of all turf producers for Hort Innovation.

The farm visits provide the opportunity to address issues put forward in 197 Turf Alerts with regards to changes in Biosecurity, regulations, legislation at the local and state level. Turf Alerts are for members only and password protected.

b) Queensland Communications Plan and input into national plans.

During this project a system of industry-based Turf Alerts were sent out to growers with 197 over the 3 years of the project. This is on top of specific emails and electronic communications. During the project to a strong approach to social media was undertaken with Twitter and Facebook in particular.

- 23 Fact Sheets and 2 Case Studies were added to the website for industry use. Recorded hits over the past 9 months (only record) to June 17 = 4168 hits.
- 6 X You Tube DVD's have been developed and also added to the TQ website for industry use. (www.qtpa.com.au)

c) Input into national Market Development Plans.

Through regular industry development teleconference meetings held with all states and Turf Australia diverse and important state-based regulations were discussed and appropriate marketing developed where needed. The networking with other states was highly beneficial as many issues could be transported between one another for industry benefit.

d) Development of strategies and implementing programs for increased education and awareness on the benefit of turfgrass for Erosion Control to benefit the Great Barrier Reef (GBR) lagoon and water quality from building and construction run-off.

Turf Queensland has undertaken considerable work over many years in research and development on erosion control on-farm. This in conjunction with the National erosion control facility at Redlands in Brisbane has provided a large database of information to promote to the main specifiers in regional councils, landscape architects, erosion control engineers, landscape contractors, NRM groups and Landcare organisations. This work continues and requires considerable extension work with education and awareness. Projects and strategies are currently being built around the process of education and awareness of the specifiers in particular the GBR. The development of an Australian Standard for the use of turfgrass for erosion control will be huge benefits in the push to have specifiers recognise the benefits and eschewed July 2017. In saying that it is pleasing to see how many regional councils have now implemented natural turfgrass in their erosion control policies

as a result of Turf Queensland's many visits to Councils along the eastern seaboard especially those related to the GBR.

e) The development of strategies and implementing programs for improvement in Water and Energy Use Efficiencies on farm.

Over a number of years Turf Queensland has been working with 7 pilot farms (3 x NQ, 3 x SEQ, 1 in Lockyer), on investigating water use efficiency and energy use efficiency on farm. This covered areas such as distribution uniformity of the irrigator, moisture monitoring, pump efficiency's, and delivery of water to the irrigator. These Southeast Queensland case studies are now up on the TQ website for industry benefit with the North Queensland case studies yet to be added.

f) Development of Precision Agriculture programs suitable for turf production in Queensland.

Precision Agriculture has been taken up by a number of turf producers however recognition of the benefits across the industry is yet to be achieved. A number of workshops have focused on this subject that includes innovation in fertiliser development, variable rate irrigation, centre pivot irrigation, variable rate fertilising (spreader,) moisture monitoring, NDVI and crop quality sensing, irrigator nozzles and sprinklers/ farm mapping and of course education and awareness at workshops and through on-farm demonstrations of drone technology including robotics. Most turf producers are now educated in the process is available is just a matter of investment and applying it to their farm management plans.

Turf Queensland has for the past 5 years been involved in the development of a robot mower (MOWBOT) innovation with universities to suit turf farming practices. Finally in conjunction with a private company in Emerald Queensland "Swarmfarm" we have undertaken numerous meetings with a number of Universities in the potential development of the product. This now is totally controlled by Swarmfarm who took up the challenge and is close to realisation with prototypes being available in October 2017.



g) *Industry promotion of Workplace Health and Safety and Health and Wellness strategies to support employers and employees along with return to work programmes.*

The turf industry some years ago were very relaxed on the Workplace Health and Safety policies on farm. They adhered and undertook the basic WH&S processes however they did not apply it in line with legislation. To date there is no national harmonised Workplace Health and Safety programs and each state tends to run their own even though they are very close. Through this project and on farm visits Turf Queensland were able to address these issues that covered on farm inductions, grower WH&S policies, Workplace Health and Wellness programs and Return to Work policies and procedures. Samples were provided of WH&S policies and procedures documents that were developed in conjunction with the Queensland Department of WH&S by Turf Queensland and provided to the farmer in CD format for easy duplication and in particular areas of indoctrination and employee record keeping was greatly reprove. The policy manuals were adapted, copied and utilised by many turf farms. These were reviewed by the writer during regular farm visits. The increased productivity and employee relations have been commented on by many farmers.

RECOMMENDATIONS

The Turf Queensland board has considered the “Turf Industry Development” project being run in conjunction with Turf Australia for this state, highly beneficial and successful has proven by separate independent reports in industry survey’s and reviews. **This independent survey was undertaken of all turf producers for Hort Innovation.** This independent review undertaken by Scott Williams Consulting Pty Ltd and Miracle Dog Pty Ltd in November 2015 claimed: *“While there are aspects of the business and industry development project that could be refined, the overarching finding of this report is that the project and the broader industry development program that includes the state-based projects (including Queensland) is providing benefits to industry and should continue”*. The independent review report went on to say that at a recent turf grower panel meeting that *“Overwhelmingly, the business and industry development manager along with the state-based industry development officers projects (including Queensland) are highly regarded by turf growers within the industry”*.

A review of the turf industry communications program in 2015 by Naturally Resource Pty Ltd contracted by Hort Innovation found that;

- Turf growers believe they are aware of R&D being undertaken and its outcomes.
- Growers believe that about the right amount of information is being produced by Turf Australia and the independent state associations and they are not duplicating information in their communications.

As such the turf industry in Queensland would strongly suggest that this continued support through programs such as this continues to benefit the turf grower in this state. Coordination through Turf Australia provides excellent feedback and interaction with other states.

The importance of Turf Queensland to the turf producer in Queensland (and associations in other states) as the central point of contact on important issues related to the state, cannot be understated. It is critical to note that a raft of regulations and legislation are different state by state and therefore requires control and monitoring at that level for the benefit of the turf grower.

The project with its support and ability to visit face-to-face provided update data for the Queensland turf industry. It allowed promotion to the turf growers of improved farm management plans incorporating business strategies and marketing. This program also allows for the highly important continued visits to many of the main specifiers across the state.

IP/COMMERCIALISATION

No commercial IP generated.

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- Turf Queensland board members.
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- Related Lifestyle Horticulture industries in Queensland.
- Turf Australia staff.
- Hort Innovation industry program staff.
- State IDO's.

ATTACHMENT

List of available Fact Sheets and Case Studies

<http://www.qtpa.com.au/fact-sheets/>

[No 34 Water Requirements of Warm Season Turfgrass](#)

[No 33 Precision Agriculture Benefits in Turf](#)

[No 32 Turf Farm Soil Retention](#)

[No 29 Maintenance Warm Season Lawn Care Program](#)

[No 28 Benefits of Crop Yield Mapping](#)

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[No 22 Solar Power Checklist](#)

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[No 18 Improving soil retention in turfgrass production](#)

[No 15 hints for flood recovery grant applications](#)

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[No 05 Benefit of Land & Water Management Plans for the Turf Producer](#)

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[No 19 Control of Algae Bloom](#)

[No 07 Installation of turfgrass](#)

[Case study 007 Natural turfgrass averts environmental disaster](#)

[Case study 006 – Delivery vehicle analysis](#)