

**Jimboomba
Turf Group**
green solutions

CASE STUDY

Fit for purpose turf The effects of shade on the modern lawn

LOCATION

SPRINGFIELD LAKES
QLD AUSTRALIA

REQUIREMENT

TURF GRASS SUITABLE FOR
MODERN BACKYARDS WITH
RESTRICTED SUNLIGHT

SOLUTION

SIR WALTER DNA CERTIFIED
BUFFALO TURF GRASS

OVERVIEW

Recent housing trends have begun an evolution of the Australian backyard. While house and living space design has changed, turfgrass selection has not.

During the 1990's housing trends changed and the existing lawn varieties struggled to adapt. Houses became larger, blocks became smaller and the traditional Aussie lawn became smaller too. Larger houses meant that suddenly lawns had to deal with shade and extreme heat all at the same time.

BACKGROUND

Traditionally the Australian backyard was known as a quarter acre block.¹ During the 1990's housing trends changed and the existing lawn varieties struggled to adapt. According to a 2004 Australian Bureau of Statistics report "houses became larger, blocks became smaller and the traditional Aussie lawn became smaller too".² Larger houses meant that suddenly lawns had to deal with shade and extreme heat all at the same time

In 2013, the Australian Bureau of Statistics released data highlighting a floor area growth of 48.5% since 1984. This has seen the floor area of new houses rise from 162.4m² to 241.1m² over this period.³ In 2011 The Sunday Mail published figures showing that new home buyers are now offered house blocks a quarter the size their parents bought.⁴ Their data shows a decline from 810-910m² in 1950 to just 200-350m² in 2012.

When you combine these sets of information, we see that the average percentage of block taken up by the house has grown from 27% in 1985 to 85% in 2012. This growth is astronomical and has put huge pressure on the unchanged grass varieties still used in modern backyards.



1. Anon, Quarter acre - Wikipedia.pdf. Available at: https://en.wikipedia.org/wiki/Quarter_acre

2. Australian Bureau of Statistics, 2004. Are we building on smaller blocks.pdf, Available at: <http://www.abs.gov.au/ausstats/abs@.nsf/0/15cdfb6cdb264658ca256f02007967be>

3. ABS, 2013. Average floor area of new residential dwellings, Available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/8752.0FeatureArticle1Jun2013>

4. Hall, P., 2011. Great Aussie dream downsizes as house block areas slashed. The Sunday Mail.

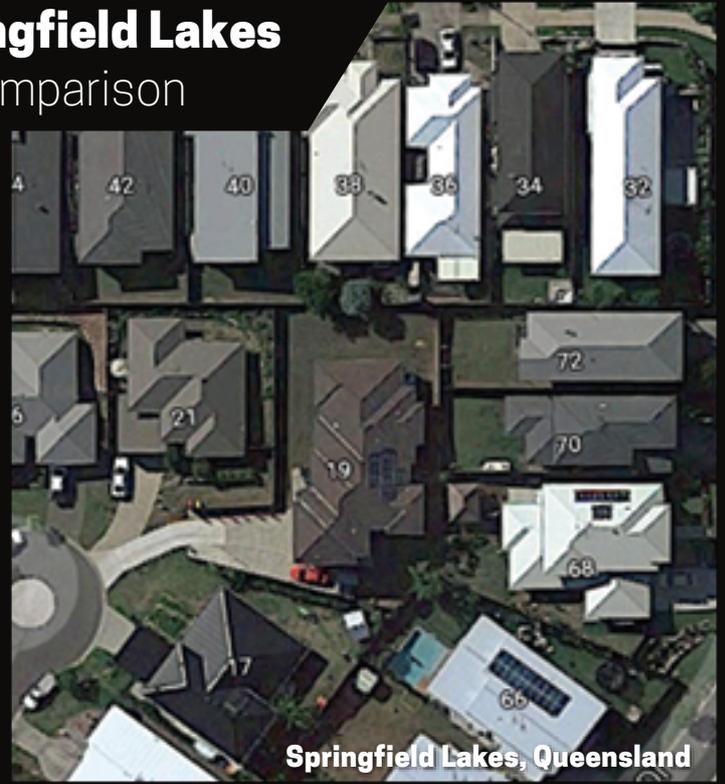
Available at: <http://www.news.com.au/finance/real-estate/great-aussie-dream-downsides-as-house-block-areas-halved/news-story/613eb92ae71399b9824b35655e11a50c>

Oxley vs Springfield Lakes

A visual comparison



Oxley, Queensland



Springfield Lakes, Queensland

**Couch grass
(Bermudagrass)
requires a minimum of
6 hours of direct
sunlight every day.**
JT Brosnan & J Deputy
University of Hawaii

OXLEY vs SPRINGFIELD LAKES

On the left of the image above, we have an old suburb, Oxley, where we still see the traditional backyards. On the right at the same scale, we have a new suburb Springfield Lakes and we can see the houses are much bigger and taking up almost the entire block.

This visual representation really drives home how much Australian backyards have changed. It also gives a very visual representation of the Housing Industry Australia figures of outside areas on new homes being 40% smaller than a decade ago.⁵

CURRENT SITUATION

For many years in Australia when we thought of turf, we thought of couch. Known for its fine leaf, bright to dark green colour, its love and tolerance of full sun conditions, excellent wear and tear and repair capabilities, drought tolerance, and its ability to establish almost anywhere and thrive, it's easy to see the appeal which couch has enjoyed over so many decades.

The weakness of couch grass, or Bermudagrass as it is known in the USA, is its thirst for large amounts of direct sunlight. University of Hawaii research states that; "a minimum of six hours of direct sunlight is required daily".⁶ While open spaces such as footpaths may obtain this amount of direct sunlight, enclosed back yard lawns will rarely see this much sun. This makes couch grass a poor choice in this situation.



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5. Royall, I., 2016. Lawns being lost as bigger homes go on smaller blocks. Herald Sun.

Available at: <http://www.heraldsun.com.au/news/victoria/lawns-being-lost-as-bigger-homes-go-on-smaller-blocks/news-story/73be106b6557b8e3e7e2e27a416fea25>

6. Brosnan, J.T. & Deputy, J., 2008. Bermudagrass. Cooperative extension service, College of Tropical Ag. and Human Res., Univ. of Hawaii, Honolulu, HI. Turf Management, (January).

Available at: http://turfgrass.ctahr.hawaii.edu/downloads/Bermudagrass_NEW2.pdf

Buffalo grass (St. Augustinegrass) has the best tolerance for shade of any of the warm season grass species and also grows well in full sunlight.
Dr. Laurie Trenholm,
University of Florida

Buffalo grass has been an alternative that has suited many Australian lawns for many years with their wider leaves requiring less sunlight to thrive. The University of Florida found that Buffalo grass or St. Augustinegrass as it is known in the US; “has the best tolerance for shade of any of the warm-season grass species and also grows well in full sunlight”⁷ The best known and arguably the best performing of these buffalo grasses is Sir Walter DNA Certified buffalo grass.

Launched in 1996 Sir Walter DNA Certified is more resilient to disease, pests, and fungus than other grasses. It was developed in Australia to withstand the country’s extreme conditions. Thriving in shade and sun, it stays green and lush throughout the year.

This ability to thrive in difficult situations allows Sir Walter to survive with as little as 2-3 hours of direct sunlight daily. Lawn Solutions Australia state that Sir Walter “performs well in shaded positions down to 30% sunlight and is, therefore, an exceptional performer for underneath trees or part-shade from neighbouring structures.”⁸

THE CHALLENGE

When we choose the roof or the front door for our house, we ensure it is fit for purpose. The roof has to suit the local climatic conditions, and its performance under these conditions is thoroughly evaluated in the planning stages. The front door to a house is also carefully selected, with security and strength a key factor. We would never use an internal door as our front door just because it's cheaper. In both these examples, the performance of the item is the driving factor in the purchase. They have to be “fit for purpose”.

The last survey of the turfgrass industry in Australia in 2008 showed that couch grass accounted for 46% of the total amount of warm season varieties harvested in Australia.⁹ This continued domination of the Australian turfgrass market is putting too much of the wrong variety into modern Australian backyards.

This glut of lawns that are not “fit for purpose” leads to increased costs in maintaining the lawn and leaves the homeowner with the expensive risk of needing to replace the lawn. The cost of replacing an unsuitable lawn could be as high as \$1700. This includes clearing of the site and laying superior turf.

Just like most plants, grass uses the process of photosynthesis to produce the food they need for daily function. Light is absorbed through each blade of grass and converted into carbohydrates to fuel the plant¹⁰ The width of the blade of grass or the leaf determines the capability of



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7. Trenholm, L.E., 2008. Growing Turfgrass in the Shade 1. , pp.1–2 Available at: <http://edis.ifas.ufl.edu/ep072>

8. Lawn Solutions Australia, 2016. Sir Walter Buffalo Specification Guide. Available at: <http://www.lawnsolutionsaustralia.com.au/wp-content/uploads/2016/01/LSA-Specs-Sir-Walter-DNA-Certified-Web.pdf>

9. Haydu, J.J., Aldous, D.E. & Satterthwaite, L.N., 2008. Economic Analysis of the Australian Turfgrass Industry. , (March). Available at: <http://hortbusiness.ifas.ufl.edu/pubs/Aust-turf-grass.pdf>

10. Lawn Care Academy, Photosynthesis - You will never see your lawn the same way. www.lawncareschool.com. Available at: <http://www.lawn-care-academy.com/photosynthesis.html>

Shade also plays a huge factor; shade from some trees can reduce photosynthesis in the grass by 90%

**Dr. Bert Bregg,
Michigan State
University**

each grass variety. In the simplest terms, the wider the leaf the greater the ability of that grass variety to live in the shade. As the great surface area allows the plant to more effectively convert the light to energy.

Shade also plays a huge factor; shade from some trees can reduce photosynthesis in the grass by 90%. Conifers cast denser shade, reducing full sun to roughly 10% at midday.¹¹ This makes it difficult to establish and maintain turf varieties that need a lot of sun, such as fine leaf couch grass.

When the turfgrass variety is selected on the factor of price alone, while the installation price is lower, the ongoing costs can be much higher. Installed turfgrass that is not “fit for purpose”; will incur higher than normal maintenance costs to keep this lawn in reasonable condition. This will include increased water charges, as well as increase product expenses with a greater amount of both fertilisers and pest/weed products required.

The greatest possible cost that could be incurred is the complete replacement of the lawn. The builder can still be affected, despite being buffered from the direct cost a homeowner will incur. While the builder may not have to contribute to the dollar cost for the replacement of the lawn, their price comes in the form of ill-will. Continued installation of lawns that are not “fit for purpose” and fail to establish will eventually reflect poorly on the builder's well-earned positive reputation.

THE SOLUTION

The most expensive lawn is not always the best lawn for your property; the real driving factor needs to be the amount of direct sunlight your lawn receives. If your lawn receives more than 6 hours of direct sunlight then you can choose from all available turf varieties.

However if your lawn receives less than 6 hours of direct sunlight then the only, “fit for purpose” lawn for your property is a premium lawn such as Sir Walter DNA Certified.

For the homeowner, any savings made during the build can be quickly offset by the future costs incurred through choosing to install a lawn that is not “fit for purpose”. Using the earlier mentioned averages of 200-350m² blocks and 241.1m² houses we can start with a 60m² lawn area. Based in this lawn area the difference in the cost of supply only between the cheaper Nullarbor Couch and Sir Walter DNA Certified is roughly \$350.

With fertiliser costs alone for 12 months coming in at \$140 for a superior fertiliser with a wetting agent, you can clearly see how quickly that initial saving is erased. The \$350 it would



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11. Cregg, B., 2015. Trees and Turf : Can't We All Just Get Along? Arboriculture and Turfgrass Management, January/Fe, pp.32-35. Available at: <http://www.hrt.msu.edu/uploads/535/78626/TreesTurfGetAlongred.pdf>

For new developments such as Springfield Lakes with lawns facing large shade factors, it's vital home owners and builders install a "fit for purpose" lawn like Sir Walter DNA Certified.

cost to upgrade from the unsuitable couch to a "fit for purpose" Sir Walter lawn in this situation compares very favourably to the \$1700 cost of replacing an unsuitable lawn.

A 2012 survey by Turf Australia found that "Aussie home buyers are prepared to pay up to \$75,668 more for a lawn"¹² Investing in your lawn pays off, by increasing both the street appeal and resale value. According to The Courier Mail "A third of real estate agents say buyers believe a lawn adds to the look and feel of a home".¹³

This indicates that money spent on getting a "fit for purpose" lawn not only reduces your maintenance costs but also increases the value of your property.

SUMMARY

As we have seen above savings made on cheaper lawn installations are quickly offset by increased maintenance costs. The reverse of this is, of course, that by spending slightly more on the installation of a "fit for purpose" lawn like Sir Walter DNA Certified will deliver savings to you year after year on maintenance costs. With the rising cost of water supply and less expensive chemicals required these savings could be substantial.

Spending as little as \$350 extra on your \$420,000 investment on a new home can deliver savings of hundreds of dollars year after year, with Sir Walters ability to thrive with less water and maintenance. The minimal cost savings of installing a lawn that is not "fit for purpose" are completely offset by increased lifetime costs of both lawn maintenance and the risk of the lawn requiring replacement.

Both homeowners and builders need to pay closer attention to the conditions a new lawn will face. The focus on price needs to be changed to a focus on climatic conditions; especially focusing on the factor of shade. By using the amount of direct sunlight a new lawn will receive, the lawn installed will be "fit for purpose"; delivering healthier, more attractive lawns and lower maintenance costs for the life of the lawn.

For new developments such as Springfield Lakes with lawns facing large shade factors, it's vital home owners and builders install a "fit for purpose" lawn like Sir Walter DNA Certified.



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12. Turf Australia, 2012. Industry Newsletter. . (February). Available at: <https://www.turfaustralia.com.au/documents/item/49>

13. Shearer, P., 2012. Grooming a garden has its rewards. The Courier Mail.

Available at: <http://www.couriermail.com.au/lifestyle/grooming-a-garden-has-its-rewards/news-story/f1ac219855ac61e9cbf2d3306aed9cb9>