

# New Turf Species for Added Durability & Resilience



AUSTRALIAN SPORTS TURF CONSULTANTS

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# ABOUT ASTC

Australian Sports Turf Consultants (ASTC) provides independent consultancy advice and specialist services to the sports turf industry, turf production industry, commercial and environmental sectors.

ASTC also undertakes research, development and extension activities for the Australian and international organisations.

Our office is located in Brisbane, Australia.



# OVERVIEW OF PRESENTATION

- Why focus on new turf varieties?
- Player safety and turfgrass
- Turfgrass breeding programs
- USA and Australian varieties of importance
- Quality control
- Australian Warm-Season Turfgrass Collection
- Turf Finder

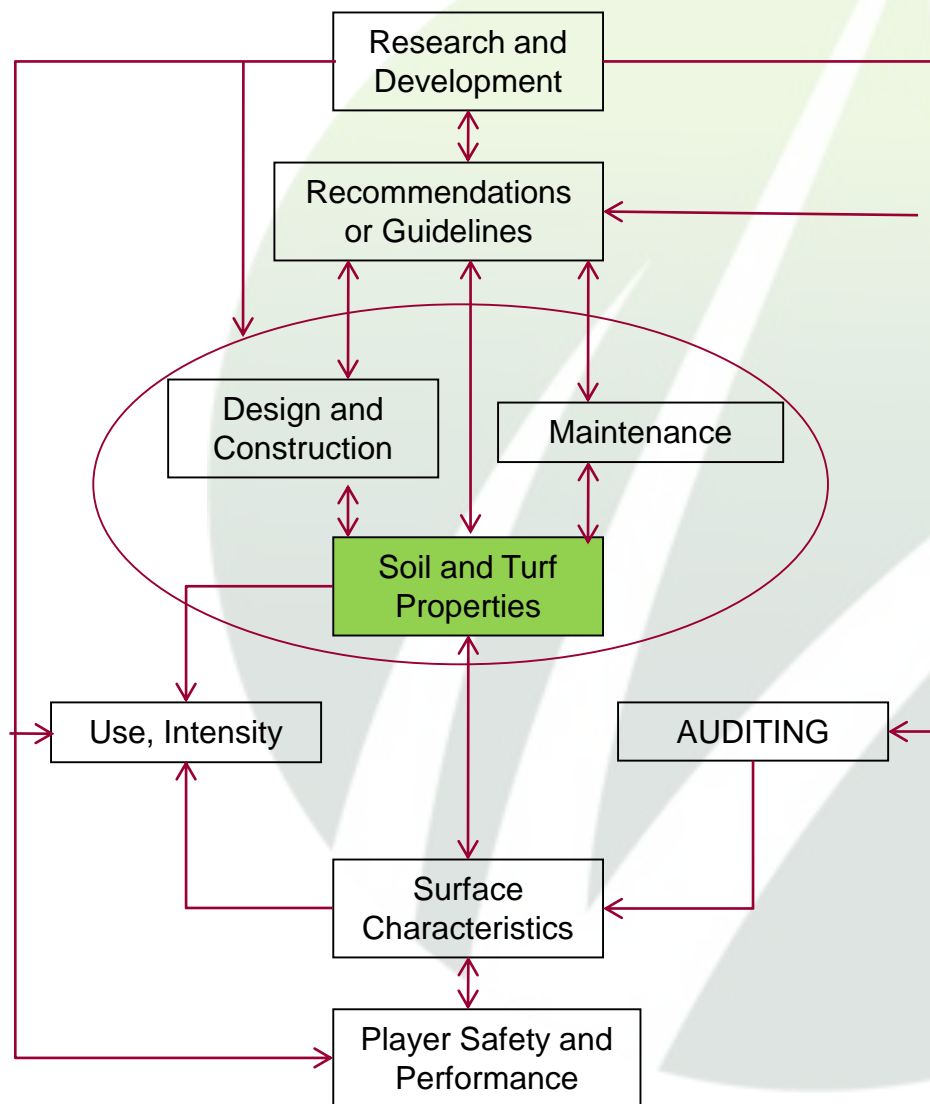
# WHY FOCUS ON NEW TURF VARIETIES?



vs.



# PLAYER SAFETY AND TURFGRASS



(left) modified from Waddington et al., 1997.

# PROBLEMS WITH NATURAL SPORTS TURF



- Shade
- Wear
  - overuse and multi-use
- Stability and reinforcement
  - root development
  - disease



# TURFGRASS BREEDING PROGRAMS


















- University of Georgia: Dr Brian Swartz (formerly W. Hanna)
  - TifSport, TifGrand, TifTuf
- University of New Mexico: The late Dr Arden Baltensperger
- University of Florida: Dr Kevin Kenworthy
- Texas A&M: Dr. Ambika Chandra
- Mississippi State University: Suleiman Bughrara



- University of Queensland: Dr Chris Lambrides
  - Scienza®
- Individual breeder's or collectors
  - Grand Prix, OZ TUFF®, Stadium® Sports Couch, Kenda®, Village Green® and Oakridge®

# COUCH VARIETIES FOR SPORTS FIELDS - HISTORY

Variety	Species	Country of Origin	Developed	Released	Sold in Aus. (# of farms <sup>1</sup> )
Tifway (Tifton 419)	Hybrid		1954	1960	Yes (1)
Santa Ana	Hybrid		1956	1966	Yes (4)
Greenlees Park	Green couch		1965	1969	Yes (15)
Wintergreen	Green couch		1969	1983	Yes (50)
CT-2	Green couch		1988	1991	Yes (5)
Legend (C1)	Green couch		1986	1993	Yes (9)
TifSport® (Tift 94)	Hybrid		1983	1994	Yes (1)
Riley's Super Sport	Green couch		1988	1997	No
Grand Prix	Green couch		2002	2006	Yes (6)
OZ TUFF®	Green couch		2001	2006	Yes (9)
AgriDark	Hybrid		1996	2010	Yes (2)
Stadium®	Green couch		2008	2011	Yes (2)
TifGrand®	Hybrid		1993	2012	Not yet
Sciencia®	Green couch		2007-11	2015	Yes (1)
TifTuf™	Hybrid		1993	2016	Not yet

Information obtained from: <sup>1</sup> [www.TurfFinder.com](http://www.TurfFinder.com) as of 21 June 2016.



# TURF VARIETIES

## Hybrid green couch

- International: AgriDark, TifSport<sup>®</sup>, TifGrand<sup>®</sup> and TifTuf<sup>™</sup>

## Green couch

- Australian: Grand Prix, OZ TUFF<sup>®</sup> and Wintergreen

## Kikuyu

- Australian: Oakridge<sup>®</sup>, Kenda<sup>®</sup> and Village Green<sup>®</sup>

## Regenerating Perennial Ryegrass (RPR)

- International: Turf Star<sup>®</sup> RPR<sup>®</sup>

## Rhizomatous Tall Fescue (RTF)

- International: Labarinth RTF and FIB RTF

*Commonly newer varieties have Plant Protection to protect their IP and promote future breeding efforts.*



# A COMPARISON OF 4 COUCH VARIETIES USED IN AUSTRALIA



Variety	Wear tolerance <sup>1</sup>	Thatch production	Fertility requirement	Mowing frequency	Salinity tolerance <sup>3</sup>
AgriDark (2010)	Good	Moderate	Moderate	Moderate	Good
Grand Prix (2006)	Good to High	High	Moderate	Moderate	Moderate
OZ TUFF® (2006)	Good to Very High	High	Moderate	Moderate	Good
TifSport® (1994)	Good to High	Moderate to High	Moderate to High	Moderate to Low	Low <sup>2</sup>
Wintergreen (1983)	Moderate to High	Moderate	High	High to Moderate	Good

Information obtained from: <sup>1</sup> Roche et al. (2012) as seen in Table 1 with available data, <sup>2</sup> Bauer et al. (2009), <sup>3</sup> Poulter and Bauer (2010)

## TifGrand® (ST-5)

**TIF GRAND**<sup>®</sup>  
CERTIFIED BERMUDA

- Hybrid green couch (*Cynodon dactylon* x *C. transvaalensis*)
- University of Georgia variety – Dr Wayne Hanna.
- Protected by USPP
- To be trialled for Plant Breeder's Rights (PBR) by ASTC as the QP
- Exclusive rights held in Australia by Lawn Solutions Australia
  
- Performs in area with up to 60% shade
- The world's first seed and pollen sterile hybrid couch. But produces a high number of small seedhead
- Dense, dark green turf with a narrow leaf blade
- Requires less water and nitrogen than Tifway and TifSport
- Released in USA 2012.



The University of Georgia<sup>®</sup>

## TifTuf™ (DT-1)



- Hybrid green couch (*Cynodon dactylon* x *C. transvaalensis*)
- University of Georgia variety – Dr Brian Swartz.
- Protected by USPP
- 12 years of testing (developed 1993, released 2016)
- Exclusive rights held in Australia by Lawn Solutions Australia
  
- Performs well in shade (similar to TifGrand)
- Uses 38% less water than Tifway (high drought tolerance)
- Has better wear than Tifway
- Dense, dark green turf with a narrow leaf blade, with good spring green up (post winter)

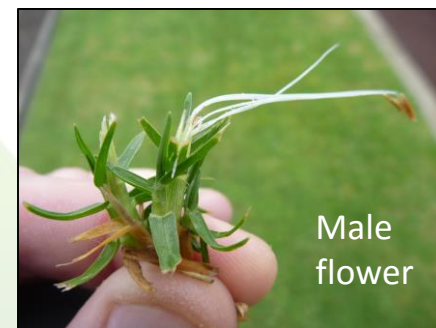


The University of Georgia®

# KIKUYU VARIETIES

Oakridge<sup>®</sup>, Kenda<sup>®</sup> and Village Green<sup>®</sup>

- Male sterile varieties of kikuyu
- Cold tolerant
- Higher density and turf quality
- Moderate wear tolerance (and fast recovery)
- Medium textured with soft leaf blades



OAKRIDGE<sup>®</sup>  
Kikuyu

# REGENERATING PERENNIAL RYEGRASS (RPR)



- Variety: Turf Star® RPR®
- Developed for traffic tolerance
- Traffic tolerance and recovery
- A spreading, stoloniferous perennial ryegrass that produces ‘determinate’ stolons or runners
- 10 to 15 year research process



Source: Barenbrug



At left, traditional perennial ryegrass. At right, RPR after one year.

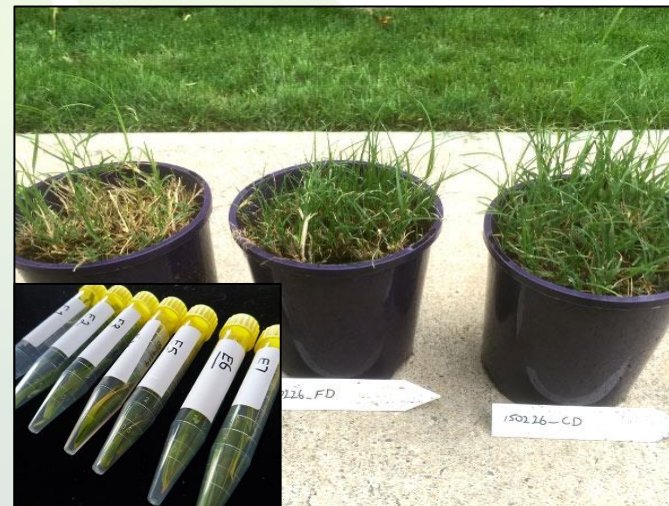
# RHIZOMATOUS TALL FESCUE (RTF)

- Varieties: Only 2, Labarinth RTF and FIB RTF
- Produces 20 times more rhizomes
- Provides a stable rootzone because of the rhizomes
- Has been used on sports fields in AUS, USA & Canada



Source: Strath Ayr

# QUALITY CONTROL – DESIGN THROUGH TO CONSOLIDATION



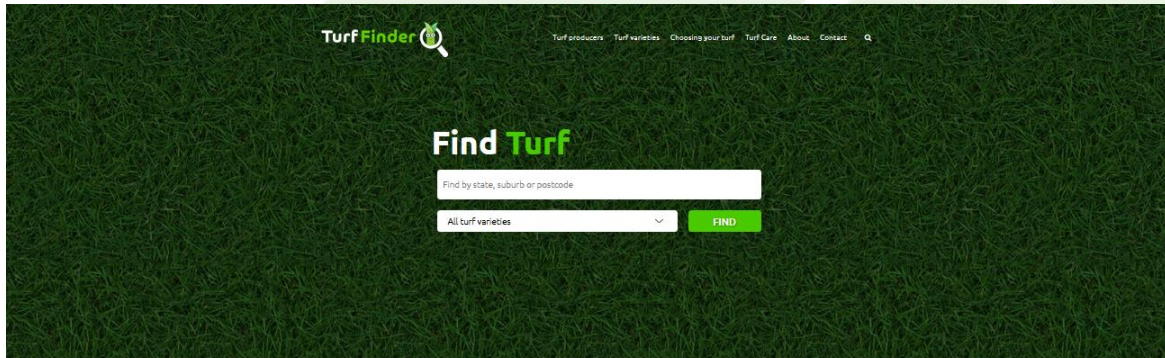


# AUSTRALIA'S WARM-SEASON TURFGRASS COLLECTION

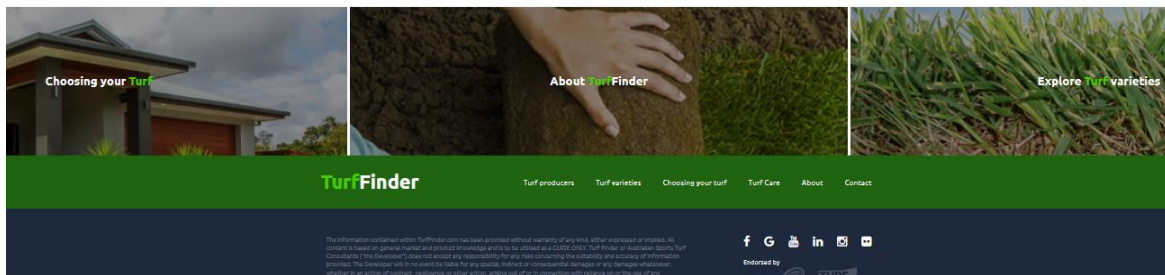


# TURF FINDER – INDEPENDENT WEB SITE

Developed by ASTC to assist professional turf managers & homeowners to choose and find where to buy turf



TurfFinder is an independent web site to assist home owners and professional turf managers in selecting the best available turfgrasses to meet their needs. TurfFinder provides factual independent information on commercially available turfgrasses being sold by professional turf producers.



- 119 turf farms
- 76 commercial varieties
- 12 non-commercial varieties

# CONTACT DETAILS

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