



# Environmental Grasses

# THANKS TO

- **Stewart Bennett – Alden Pines Country Club**
- **Todd Lowe, USGA Agronomist**
- **Tim Daniel – Crown Colony Golf & Country Club**
- **Rodney Whisman – Hammock Bay Golf & Country Club**
- **Tom Trammell – Hawk's Nest Golf Club**
- **Jim Torba – Miami Beach Golf Club**
- **Brian Bowles & Steve Verville – Delaire Country Club**
- **Tim Hiers & Todd Draffen – Old Collier Golf Club**
- **Dr. Ronny Duncan**



Seashore

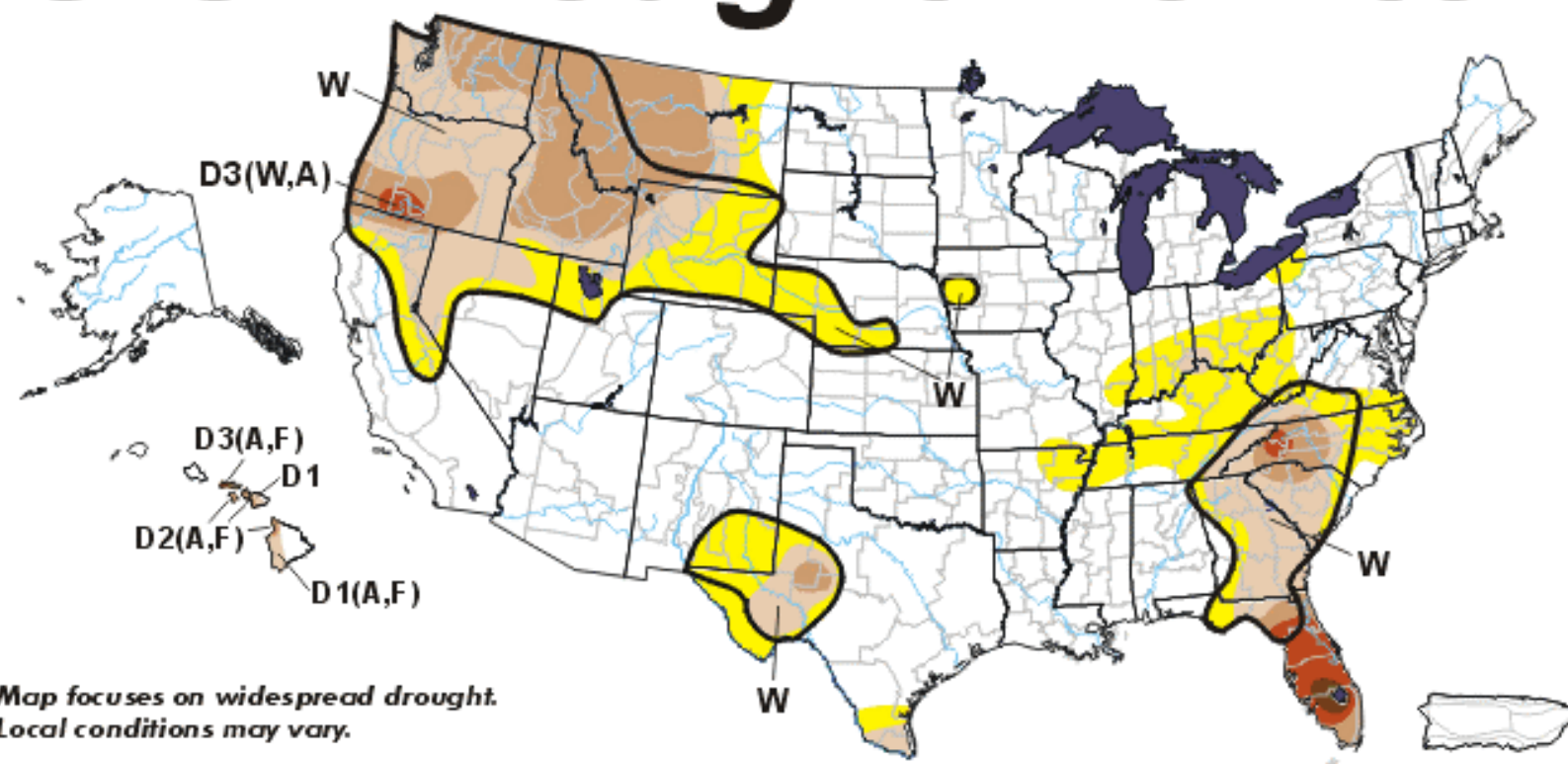
Paspalum

# **Paspalum Vaginatatum**

- **Native to South Africa**
- **California to North Carolina and south**

April 10, 2001 Valid 8 a.m. EDT

# U.S. Drought Monitor



- D0 Abnormally Dry
- D1 Drought—Moderate
- D2 Drought—Severe
- D3 Drought—Extreme
- D4 Drought—Exceptional
- Delineates Overlapping Areas

Drought Impact Types:  
A = Agriculture  
W = Water (Hydrological)  
F = Fire danger (Wildfires)  
(No type = All 3 impacts)



See accompanying text summary for forecast statements

<http://enso.unl.edu/monitor/monitor.html>

● Released Thursday, April 12, 2001 ●

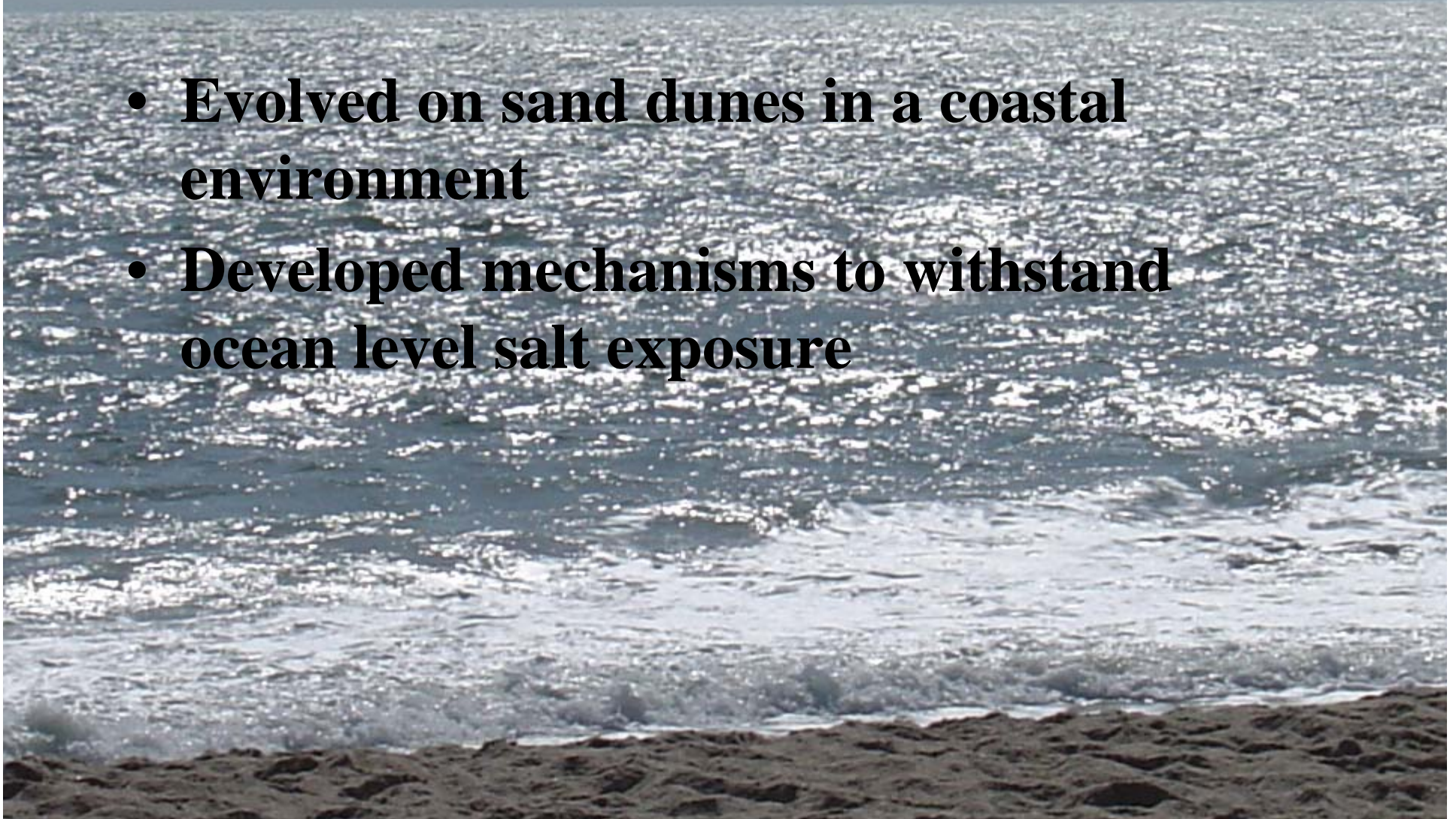
Author: David Miskus

# Issues

- Water Restrictions
- Environmental Issues

# SEASHORE PASPALUM

- **Evolved on sand dunes in a coastal environment**
- **Developed mechanisms to withstand ocean level salt exposure**



# PASPALUM ROOT SYSTEM

- **Adapted to Extreme Severe Drought**
- **Salt Spray**
- **Total Inundation by Salt Water**
- **Low Light Intensity**

**DEVELOPED AN EFFICIENT ROOT  
SYSTEM CAPABLE OF EXTRACTING  
NUTRIENTS SUPPLIED IN LOW  
VOLUMES FROM OCEAN WATER**

## Seashore Paspalum Development

<b>1951</b>	<b>Saltene Salpas</b>	<b>Western Australia Australia</b>	<b>Intermediate Intermediate</b>
<b>1972</b>	<b>Futurf</b>	<b>Australia</b>	<b>Intermediate</b>
<b>1975</b>	<b>Adalayd Excalibur Fidalayal</b>	<b>Australia Texas Texas</b>	<b>Intermediate  Intermediate</b>
<b>1991</b>	<b>Tropic Shore  mauna Kee</b>	<b>Hawaii  Hawaii</b>	<b>Coarse  Intermediate</b>
<b>1997</b>	<b>SeaDwarf</b>	<b>Florida</b>	<b>Fine</b>

<b>1998</b>	<b>Salam</b>	<b>Hawaii, GA</b>	<b>Fine</b>
<b>1999</b>	<b>Sea Isle 2000</b>	<b>Florida</b>	<b>Fine</b>
<b>1999</b>	<b>Sea Isle 1</b>	<b>Argentina</b>	<b>Fine</b>
<b>1999</b>	<b>Durban</b>	<b>South Africa Country Club</b>	<b>Fine</b>

**Salam, SeaIsle 1, SeaIsle 2000 and SeaDwarf most common in Florida.**



REQUIRES UP TO 50% LESS  
WATER

IRRIGATION USED AT ALDEN PINES BASED ON 55 ACRES OF IRRIGATED TURF

	1994	1995	1996	1997	1998	1999	2000	2001	2002		
JAN	1,350,000	1,030,000	960,000	2,667,000	1,150,000	2,820,000	3,683,000	3,910,000		2,196,250	JAN
FEB	1,460,000	1,250,000	2,900,000	2,930,000	580,000	3,565,000	3,560,000	4,910,000		2,644,375	FEB
MARCH	3,350,000	2,610,000	2,988,000	3,050,000	1,880,000	3,880,000	3,272,000	4,431,000		3,182,625	MARCH
APRIL	3,010,000	2,130,000	3,099,000	3,024,000	4,280,000	5,604,000	5,148,000	4,390,000		3,835,625	APRIL
MAY	6,200,000	3,217,000	2,990,000	3,405,000	4,476,000	4,290,000	6,177,000	5,480,000		4,529,375	MAY
JUNE	3,250,000	704,000	1,290,000	3,270,000	4,489,000	2,372,000	3,810,000	4,490,000		2,959,375	JUNE
JULY	1,450,000	940,000	2,880,000	2,180,000	1,710,000	2,120,000	4,850,000	2,554,000		2,335,500	JULY
AUGUST	1,027,000	1,481,000	4,010,000	3,750,000	3,270,000	2,743,000	2,060,000	3,550,000		2,736,375	AUGUST
SEPT	1,570,000	560,000	3,860,000	2,380,000	1,872,000	2,248,000	2,175,000	2,400,000		2,133,125	SEPT
OCT	1,540,000	400,000	1,660,000	4,020,000	5,013,000	1,865,000	5,300,000	4,420,000		3,027,250	OCT
NOV	2,530,000	1,620,000	3,272,000	2,904,000	3,590,000	2,897,000	3,894,000	3,552,000		3,032,375	NOV
DEC	1,840,000	2,390,000	2,661,000	940,000	2,790,000	2,174,000	4,274,000	3,348,000		2,552,125	DEC
TOT	28,577,000	18,332,000	32,570,000	34,520,000	35,100,000	36,578,000	48,203,000	47,435,000		33,151,146	
average	35,164,375										

WE ARE ALLOCATED 9.6 MILLION GALLONS PER MONTH

**8 YEARS OF DATA**

# ALDEN PINES WATER USE

# **Alden Pines Water Use**

**Permitted for 115,200,000**

**Actual Average Annual Use**

**35,164,375 Gallons**

MAINTENANCE COSTS

SEASHORE PASPALUM

VS.

BERMUDA GRASS

<b>ACTUAL COST COMPARISON - SEASHORE PASPALUM VS. BERMUDA</b>						
<b>Paspalum</b>	<b>Lbs per acre per year</b>	<b>Lbs per 1,000 SF per year</b>	<b>Cost per 1,000 SF per year</b>	<b>Cost per acre</b>	<b>Dollar Difference per acre</b>	<b>%</b>
Nitrogen (N)	174	4				
Phosphorus(P)	348	8				
Potassium(K)	522	12	\$6.48	282.27		
<b>Bermuda</b>						
Nitrogen (N)	522	12				
Phosphorus(P)	130	3				
Potassium(K)	260	6	\$11.52	501.81		
					\$219.54	56.60%
1 -Mow seashore paspalum 1 time to bermuda's 2 times (approximate).						
2 - Seashore paspalum uses approximately 50% of the water Bermuda uses.						
3 - All figures are based on current fertilizer costs and are site specific to Emerald Island Turf, Inc. Avon Park sod farm.						
4 - Based on a 12 month growing period.					<b>Cost Savings</b>	
			<b>No. of Acres</b>			
5- Results will vary from site to site.			63		<b>\$13,831.02</b>	

## Fertilizer Cost Per Acre

Seashore Paspalum – \$282.27

Bermuda - \$501.81

Paspalum – 56.6% Less

**Does Not Include Water and Mowing  
Savings**

# Current Cultivars

Sea Isle 1

Sea Isle 2000

SeaGreen

SeaDwarf

Salam

Sea Isle Supreme

Aloha

# SeaDwarf



# Seashore Paspalum

- Golf Courses
- Sports Fields
- Event Fields
- Lawns

# SEASHORE PASPALUM

- Salt Tolerant
- Requires less water
- High traffic tolerance
- Cold Tolerance
- Less fertilization
- Eco-friendly
- Less nitrogen run-off
- Barefoot Grass

# FloraShade

- St Augustine
- Shade Tolerant
- Lower Fertility Requirements
- Drought Tolerant

# Hammock Centipede

- More heat tolerant
- Mow approx 6 times annually
- Lower fertilization requirements
- Finer texture than St Augustine
- Darker green than most centipedes

# Pristine Zoysia

- Golf courses
- High-end lawns
- Beautiful deep green color
- Fine leaf texture
- Establishes quicker than other zoysias
- Shade, drought, traffic tolerant
- Less water

# Ultimate Zoysia

- Lush look of Northern type lawn grass
- Establishes quicker
- Gorgeous deep green color
- Shade, salt, drought, traffic tolerant
- Less herbicides, less water