

Irrigation...

...Is it not just money down the drain?



Irrigation... ..Is it not just money down the drain?

Sadly the answer can be YES....



Irrigation... ..Is it not just money down the drain?

Why do we irrigate at all?

- Aesthetics
- Sporting code requirements
 - health and safety
 - surface uniformity
- Turf Management tool
- User expectations



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Common mistakes with irrigation systems

- Poor design and product selection, lack of research into adequate water availability at design stage
- Poor installation
- Poor maintenance
- Poor operation



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These result in...

- Quite literally...money down the drain!
- Poor turf quality
- Disease
- Excessive fertilizer use
- Frustration



Irrigation... *...How to plug the drain...*

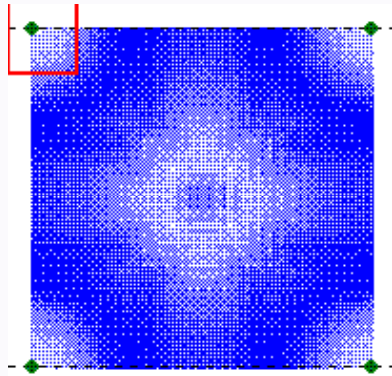
Good design and product selection

- Use experienced Designer with proven record
- Specify minimum distribution uniformities and scheduling coefficients – ask for SPACE data
- Verify that design includes typical water use information.
- Be certain that flow and pressure are available

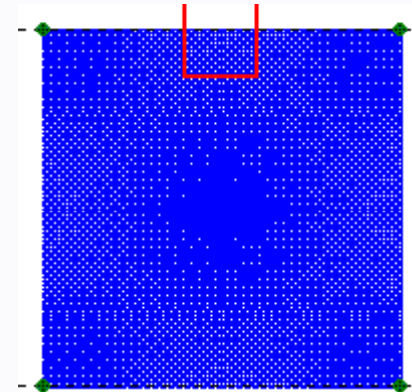


Irrigation... *How to plug the drain...*

Use SPACE Data - Densogram



Poor distribution showing
low pressure or over spacing
Typical CU < 80% SC > 1.4



Effective distribution
Typical CU > 85% SC < 1.3

Irrigation... How to plug the drain...

Good installation

- Use experienced contractors
- Retain the Designer during installation, especially during set out and commissioning
- Ensure specification is adhered to



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Maintenance

- Programme maintenance – minimum of once each year
- Budget for maintenance and periodic system audits
- Do not mix sprinkler types (arcs/nozzles) within zones
- **Irrigation, like any other asset, requires maintenance**



Operation

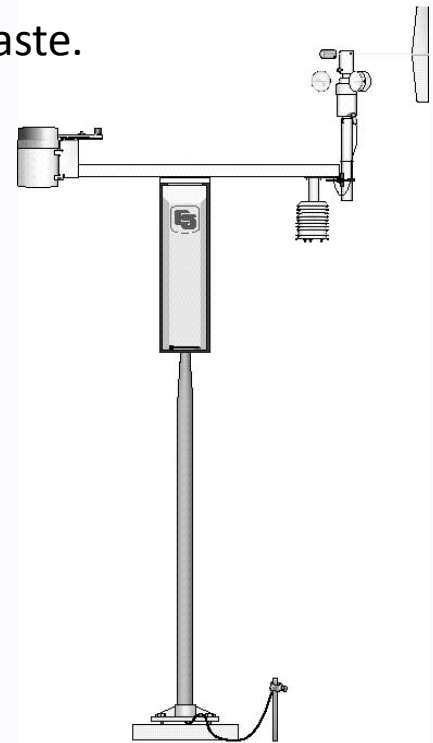
- “Set it and forget it” mentality prevails – better to get involved
- Use technology to advantage

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Technology....

Provides the tools to eliminate the guess work and minimise waste.

- Weather stations or ET sensors
- Flow monitoring
- Alarms
- Smart controllers responding to sensor information



ET106-ST
(weather/et106)

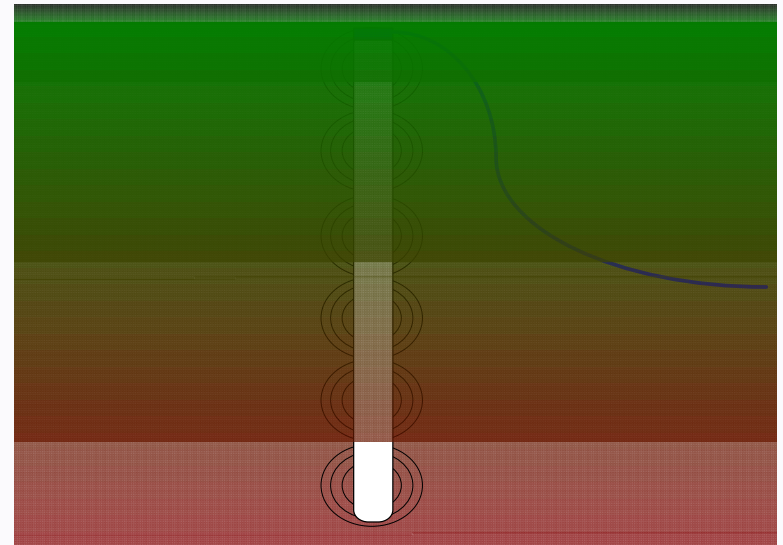
Irrigation... How to plug the drain...

Technology...

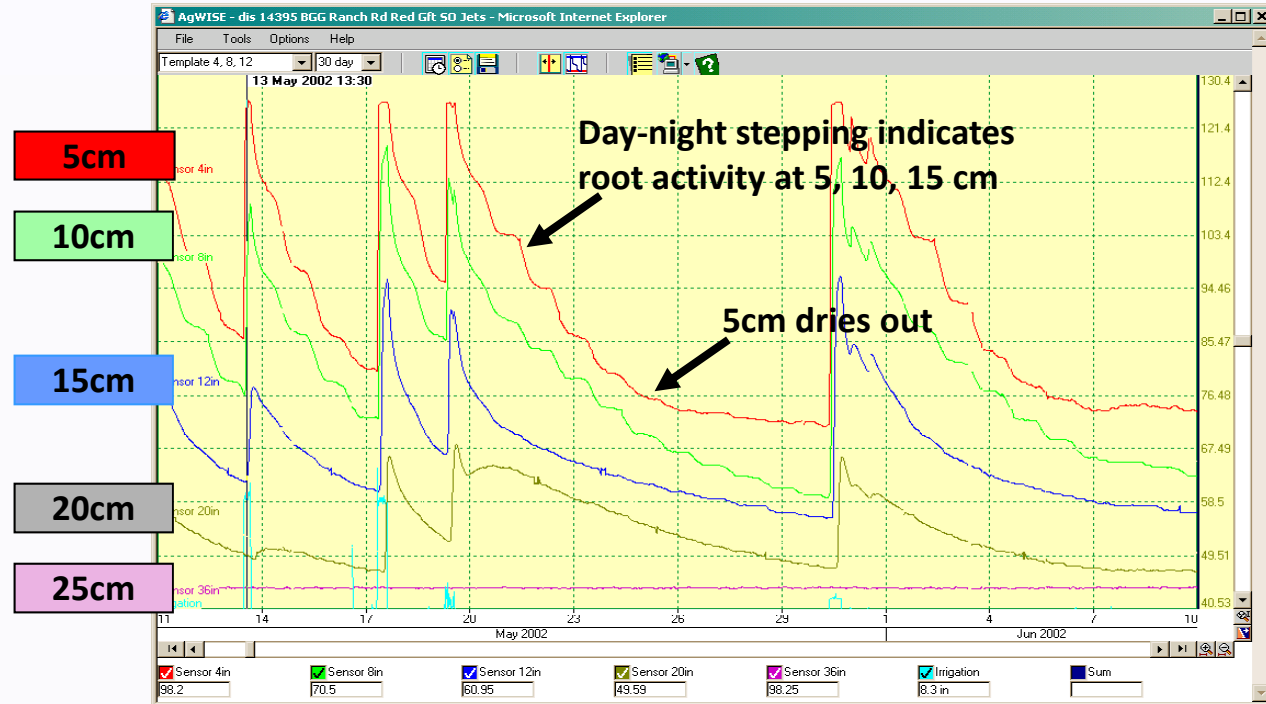
Soil moisture sensors - typical water savings from 30% - 50%



Single point, multiple depth or volumetric type sensors available



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Typical graphical data from a multiple depth probe

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Maintenance – Auditing



Parkland provides full auditing services that review system operation and provide a detailed analysis of performance and any remedial works.



Catch can test in progress

This will ensure systems can be restored to optimum performance, reducing water use, maximising field usage and producing quality playing surfaces that maximise return on investment.



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Auditing

Parkland Irrigation Audit Datasheet

Auditor	Site Name	Date/Time
WBJ/BFR	Sample Field	dd/mm/yy
	Address	Notes: Pronounced donut-rings Sprinklers throwing very short Valves seem to hunt - check master valve

SITE INSPECTION

Zone #	Broken Heads	Mis-aligned Heads	Sunken Heads	High Pressure	Low Pressure	Mixed Head Type	Comments
1		X	X		X	X	640-42, I-41, valve pressure-hunting, 260/280/380kPa
2					X		I-41, 280kPa
3	X				X	X	I-41, I-41 with rear nozzle, 640 no cap, 280kPa
4	X	X	X		X		640-42, 640 no cap, 280kPa
5		X	X		X	X	640-42, I-41, 260kPa
6	X	X	X		X	X	640-41, I-41, 640 no cap, 280kPa
7		X	X		X	X	I-41, 640-42, 240kPa
8	X	X	X		X	X	I-41, 640 no cap, 280kPa
9		X	X		X	X	640-42, I-41, 240kPa
10	X	X	X		X	X	I-41 orange PC, 640-42, 640 no cap, 280/300kPa
11							

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Auditing

CATCH CAN TEST RESULTS

Location													
Area 1			Test time = 7:10am					X					X
			Test run-time = 10min				W		1.2	1.2	0.7	0.4	
Head spacing 20.8m x 21m			Catch-can spacing = 4.2m						1.5	1.5	1.0	1.0	
3x Hunter I-41			Wind avg = 1.0km/hr						1.0	0.7	0.9	1.3	
1x Toro 640-42			Wind max = 3.7km/hr						0.6	0.7	1.1	1.5	
			Sprinkler rotation = 2min 50s					X					X
Area 2			Test time = 7:50am					X					X
			Test run-time = 10min				S		0.9	0.5	1.6	1.8	
Head spacing 20m x 21m			Catch-can spacing = 4.15m						0.4	0.5	0.4	1.6	
2x Hunter I-41			Wind avg = 0.1km/hr						1.9	0.7	1.0	1.0	
2x Toro 640-42			Wind max = 1.8km/hr						1.0	1.2	0.6	1.0	
			Sprinkler rotation = 3min 30s					X					X
Area 3			Test time = 7:30am					X					X
			Test run-time = 10min				S		1.8	1.6	1.0	1.2	
Head spacing 21.2m x 21.5m			Catch-can spacing = 4.25m						1.2	0.5	0.6	1.0	
2x Toro 640-42			Wind avg = 1.6km/hr						0.4	0.4	0.6	1.6	
1x Hunter I-41			Wind max = 4.2km/hr						1.1	0.4	1.3	0.9	
1x Hunter I-41 PC			Sprinkler rotation = 2min 0s					X					X

Precipitation Rate (mm.hr) =
mm collected / Time of
collection x 60

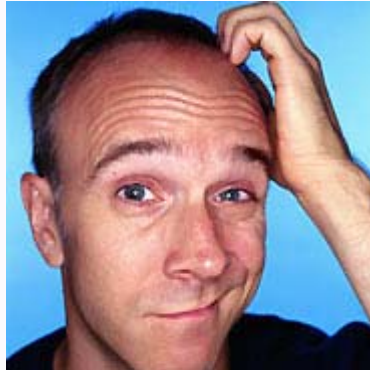
Average Precipitation Rate (mm / Hour)

Area 1 (mm)	6.1	Area 2 (mm)	6.0	Area 3 (mm)	5.9
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Yes – if you have an irrigation system that's not performing as it should.

So what can you do???



PERFORMANCE GUARANTEED
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First Steps... the simple remedies

- Undertake an audit or system evaluation
- Repair leaks
- Repair broken sprinklers or other faulty components
- Set sprinklers to correct depth
- Check controller run times and adjust seasonally



The next level...

- Remedy any pressure issues – booster pumps
- Replace sprinklers or nozzles to provide coverage
- Soil or environmental sensors – water savings
- Control system upgrade

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Correctly designed, installed and maintained, an irrigation system is an **essential** component of the professional Turf Manager's tool kit.