

# DIY Irrigation Evaluation: DATA SHEET

## Step 2: Walk the Farm

	ok	needs fixing
2a. Look for leaks at the pump, in pipelines, irrigator hoses, and at the irrigator(s)	<input type="checkbox"/>	<input type="checkbox"/>
2b. Listen for loud noises at the pump, particularly whining or crackling noises	<input type="checkbox"/>	<input type="checkbox"/>
2c. Check to see if all screens and filters are clean	<input type="checkbox"/>	<input type="checkbox"/>
2d. Check to see if pressure gauges are installed and working properly at:		
- The pump inlet	<input type="checkbox"/>	<input type="checkbox"/>
- The pump outlet	<input type="checkbox"/>	<input type="checkbox"/>
- The irrigator	<input type="checkbox"/>	<input type="checkbox"/>
2e. Walk out to all of your irrigators, inspect the spray pattern of each sprinkler	<input type="checkbox"/>	<input type="checkbox"/>
2f. Check a few of the sprinklers to see if there are any signs of blockage or buildup	<input type="checkbox"/>	<input type="checkbox"/>
2g. Look for off-target irrigation	<input type="checkbox"/>	<input type="checkbox"/>
2h. Look for ponding and/or runoff under the irrigator	<input type="checkbox"/>	<input type="checkbox"/>
	ponding time: _____ min	
2i. Look for visibly stressed plants (e.g. brown grass)	<input type="checkbox"/>	<input type="checkbox"/>
	% stressed: _____ %	

### Notes from the farm walk:

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## Step 3: Measurements at the Pump Shed

	pump 1	pump 2	pump 3	unit (circle one)
3a. Flow meter RATE				ℓ/s, m <sup>3</sup> /hr, gpm
(If there's no flow RATE display, complete <b>the next 4 Boxes</b> . See "How To #1 and #2" and <b>write the result in 3a above</b> )				
Flow meter VOLUME 1				m <sup>3</sup> , gal, ℓ
Time 1				
Flow meter VOLUME 2				m <sup>3</sup> , gal, ℓ
Time 2				
3b. Pump delivery pressure				m, kPa, bar, psi
(see "How To #3" for help with reading pressure gauges)				
3c. Surface pump suction, <b>or</b>				m, kPa, bar, psi
Groundwater pumping depth				m
(see "How To #3 and #4" for help with this step)				
3d. Pump energy use				kW, hp
(If there's no kW display, complete <b>the next 6 boxes</b> . See "How To #5" and <b>write the result in 3b above</b> )				
Power meter 1				kWh
Time 1				
Power meter 2				kWh
Time 2				
Motor current				Amps
Voltage				Volts

### Notes about the pumps:

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## Step 4: Measurements at the Irrigator(s)

	irrigator 1	irrigator 2	irrigator 3	unit (circle one)
Irrigator ID				
<b>4a.</b> Pressure at the irrigator				m, kPa, bar, psi

	irrigator 1	irrigator 2	irrigator 3	mm
<b>4b.</b> Application depth				

(If there's no readout, or you want to check the accuracy of the readout **complete 4c.** See "How To #6" for help.)

	irrigator 1	irrigator 2	irrigator 3	unit (circle one)
<b>4c. Application Depth: "Bucket Test"</b>				
Number of Buckets Used				
Width across top of bucket				mm

(make sure to use the right units, or the calculations won't work properly)

Bucket	(depth or volume)	irrigator 1	irrigator 2	irrigator 3	mm, ml
Bucket 1					
Bucket 2					
Bucket 3					
Bucket 4					
Bucket 5					
Bucket 6					
Bucket 7					
Bucket 8					
Bucket 9					
Bucket 10					
Bucket 11					
Bucket 12					
Bucket 13					
Bucket 14					
Bucket 15					
Bucket 16					
Bucket 17					
Bucket 18					
Bucket 19					
Bucket 20					
<b>TOTAL</b>	<b>(depth or volume)</b>				<b>mm, ml</b>

(see "How To #6" and **write the result in 4b**)

<b>4d.</b> Time to complete one run				hours
<b>4e.</b> Area irrigated by this run				ha
<b>4f.</b> Return interval				days
<b>4g.</b> Flow rate to the irrigator				ℓ/s, m <sup>3</sup> /hr, gpm

(If this can't be measured directly, it can be estimated from 4b "application depth". See "How To #7" for help.)

### Notes about the irrigators:

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## Step 5: Calculate and Compare

Use the DIY guide and the worksheet to calculate your system performance values. Copy these to the second column on the front of the DIY guide and compare them to the design values. If the two sets of numbers are very different, you may have a problem. See the last page of the DIY guide for ideas about what to do with the results.