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## IRRIG8Lite Effluent Irrigation System Evaluation

**Report for** DairyNZ  
**Property Name** #2

**Address**

**Phone**  
**Mobile**  
**Email**

**NOTE:** System information estimated

Application data collected by farmer  
using IRRIG8Quick guidelines

Results presented using IRRIG8Lite  
calculation and graphing package

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**Date** 28 September 2009

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# Irrigation Application Calculator - Traveller for Effluent Irrigators

## Base Information

**ENTER YOUR DATA IN THE WHITE CELLS**

#2

### 1 System Details

- a Run/lane spacing (m)
- b Irrigator wetting width (m)
- c Wetting pattern width (m)
- d Run Length (m)
- e Total number of runs

26
26
17
200
20

Average distance between runs  
Spread of water both sides of hose  
Average spread parallel with hose  
Average length irrigated each run  
Include all runs this machine irrigates

### 2 Water Use

- a Water meter at irrigation start (m3)
- b Water meter at irrigation finish (m3)
- c Time to irrigate one run (hours)
- d Hours actual irrigating per day (hours)

11047
11185
3.5
4

Exclude shifting time  
Include time shifting etc

### 3 Energy Use

- a Pump meter at irrigation start (kWh)
- b Pump meter at irrigation finish (kWh)
- c Power cost (\$/kWh)
- d Time between readings (hours)

123220
123490
0.12
10

### 4 Nutrient Concentration

- a N Nitrogen concentration (kg/m3)
- b P Phosphorous Concentration (kg/m3)
- c K Potassium Concentration (kg/m3)

0.4
0.36

If lab results in mg/L, divide by 1,000  
If lab results in mg/L, divide by 1,000  
If lab results in mg/L, divide by 1,000

## Irrigation Application Calculator - Traveller

## Field Test Information

Enter Field Testing Data in the White Cells	
#2	

Collector Bucket Diameter (mm)	265
Speed test distance (m)	5
Speed Test Time (minutes)	4.6
Test Event Irrigator Speed (m/min)	1.09

Enter you measured volumes here

Bucket No	Within Irrigation Lane Buckets											
	1	2	3	4	5	6	7	8	9	10	11	12
Left Line volume (mL)	440	460	500	480	600	620	660	720	840	780	280	
Right Line volume (mL)	400	420	400	480	500	680	980	1100	960	100	0	
Overlap Applied Depths (mm)	8.0	8.3	9.1	8.7	10.9	11.2	12.0	13.1	15.2	14.1		
	7.3	7.6	7.3	8.7	9.1	12.3	17.8	19.9	17.4	6.9		

Lowest Five Overlap Applied Depths	6.9	7.3	7.3	7.6	8.0
Highest Five Overlap Applied Depths	14.1	15.2	17.4	17.8	19.9
Mean Applied Depth (mm)	11.2				
Mean low quarter depth (mm)	7.4				
Low Quartile Distribution Uniformity	0.66				
Mean high quarter depth (mm)	16.9				
High Quartile Distribution Uniformity	1.50				
Calculated system flow (m3)	19.1				



Press Button or Ctrl+m to Calculate Key Indicators

## Irrigation Application Calculator - Traveller

## Key Results

### Crop/Field Details

Calculated Area irrigated per run (ha)  
 Calculated Total Irrigated Area (ha)

0.52
#2

Calculated from run spacing and run length  
 Calculated from Area irrigated per run an number of runs

### Application Details

Water meter flow rate (m<sup>3</sup>/hour)  
 System flow from collectors (m<sup>3</sup>)  
 Overall average Irrigator speed (m/min)  
 Test Event Irrigator Speed (m/min)  
 Applied Depth from Water Meter (mm)  
 Mean Applied Depth from collectors (mm)  
 Low Quartile Applied Depth (mm)  
 High Quartile Applied Depth (mm)  
 Low Quartile Distribution Uniformity  
 High Quartile Distribution Uniformity  
 Application Rate from Water Meter (mm/hour)  
 Application Rate from collectors (mm/hour)

13.8
19.1
0.95
1.09
9.3
11.2
7.4
16.9
0.66
1.50
31.2
43.1

Calculated from water meter data  
 Collector system flow is greater than water meter flow rate  
 Calculated from Run length and Run time  
 Test speed is greater than reported average speed  
 Measured applied depth is greater than water meter indicates  
 Uniformity is fair - system should be investigated  
 Uniformity is fair - system should be investigated  
 Measured application rate is greater than water meter indicates

### Water and Energy Use

Power cost (\$/kWh)  
 Calculated Pump energy use (kWh/h)  
 Energy efficiency (kWh/mm/ha)  
 Energy cost (\$/mm/ha)  
 Energy cost per irrigation (\$/ha)

0.12
27.0
19.6
2.35
21.81

### Nutrient Application

N Nitrogen applied (kg/ha)  
 P Phosphorous applied (kg/ha)  
 K Potassium applied (kg/ha)

### High Quartile

Mean	High Quartile
45	68
0	0
40	61

One eighth of the field receives more than the High Quartile application

Depth of Irrigation Applied after Accounting for Overlapping

