



PAGEBLOOMER

IRRIG8Lite Effluent Irrigation System Evaluation

**Report for DairyNZ
Property Name #1**

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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www.pagebloomer.co.nz

Irrigation Application Calculator - Traveller for Effluent Irrigators

Base Information

ENTER YOUR DATA IN THE WHITE CELLS

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

25
28
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														
The Blue Cells Automatically Calculate														

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												Overlapped	
	1	2	3	4	5	6	7	8	9	10	11	12	Overlapped	Overlapping
Left Line volume (mL)	580	540	560	600	660	760	760	760	760	780	780	580	780	160
Right Line volume (mL)	460	440	440	400	440	380	580	760	760	860	860	1180	860	440
Overlap Applied Depths (mm)	8.3	10.5	9.8	10.2	10.9	12.0	13.8	13.8	13.8	14.1	18.5	18.5	15.6	24.3

Lowest Five Overlap Applied Depths	6.9	7.3	8.0	8.0	8.0
Highest Five Overlap Applied Depths	13.8	14.1	15.6	18.5	24.3
Mean Applied Depth (mm)	11.9				
Mean low quarter depth (mm)	7.6				
Low Quartile Distribution Uniformity	0.64				
Mean high quarter depth (mm)	17.3				
High Quartile Distribution Uniformity	1.45				
Calculated system flow (m3)	21.7				



Press Button or Ctrl+m to Calculate Key Indicators

Irrigation Application Calculator - Traveller

Crop/Field Details

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

0.50
10.0

Application Details

Water meter flow rate (m3/hour)
 System flow from collectors (m3)
 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
21.7
0.95
1.09
9.7
11.9
7.6
17.3
0.64
1.45
32.5
45.6

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
22.68

Nutrient Application

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

Mean
48
0
43

Key Results

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

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

High Quartile

69	One eighth of the field receives more than the High Quartile application
0	
62	

Depth of Irrigation Applied after Accounting for Overlapping

