PROVIDING WATER FOR LIFE



On our planet all animal life is dependent on the continuous growth of vegetation to provide edible foliage, fruit and grain. In many developing countries most food is grown in subsistence plots and small holdings that produce insufficient food to feed the population. Many enterprising farmers irrigate by carrying water in containers from lakes and rivers. A small number have wells but the majority simply pray for rain, an increasingly unreliable commodity.

Four billion people exist at the bottom of this economic pyramid. For more than half the world's population manual powered devices are a practical option; muscle power is the only thing that keeps them from starvation.

Ecologics manual pump is clearly able to change the lives of people needing to irrigate to provide sufficient food. In addition to this basic necessity it provides the ability to produce income for those who choose to unlock that potential.

Ecologics manual pump is the product of our commitment to provide efficient, reliable and practical relief to all those people who have an urgent need to transport water from where it is to where it needs to be.

P.O. Box 11 023
Christchurch
New Zealand.
Ph: +64 3 348 9744
Fax: +64 3 341 8090
email rod.mcneil@ecologics.co.nz

www.ecologics.co.nz

ecologics presents

PEDAL PUMP FOR IRRIGATION

engineering solutions
with a social conscience

www.ecologics.co.nz

SPECIFICATIONS

2 Cylinder configuration.

Low resistance internal valves.

High flow low resistance manifolds.

Lubricated reinforced nylon bearings.

Zinc plated pressed steel construction.

Dimensions 60cm x 35cm x 27cm.

Weight: 16 Kilograms.

Ecologics pedal pump is constructed of mainly pressed steel components to achieve strength with portability. The entire unit is zinc coated to protect from corrosion. The pump diaphragms are made from very high quality patented compound and provide outstanding durability. All bearings are lubricated high quality nylon. Mechanical reliability has been tested to over 1.5 million litres with 100% mechanical success.

PEDAL PUMP PERFORMANCE DATA

Pump performance data is normally obtained in laboratories or ideal environments. Very rarely are they carried out in the field. Ecologics, out of respect for small scale farmers, have obtained performance data under real life conditions. Pumping was undertaken at a sustainable stepping rate and over a distance of 100 metres. At heights between 2 and 16 metres the following data was obtained:

height	steps	litres p/h
2.0 m	80 p/m	4260 p/h
4.0 m	80 p/m	4260 p/h
6.0 m	80 p/m	4260 p/h
8.0 m	76 p/m	4364 p/h
10.0 m	70 p/m	3495 p/h
12.0 m	62 p/m	3038 p/h
14.0 m	55 p/m	2706 p/h
16.0m	50 p/m	2264 p/h

PRACTICAL APPLICATION DATA

In terms of real application for subsistance farmers, a cabbage or corn plant requires a litre of water per day for growth and evaporation. Another influencing factor is the height to which the water is pumped. The number of plants plus the height determine how long a person must operate the pump. The data below gives a practical example of what this means in terms of man hours to achieve sufficient irrigation.

height	plants	pump hours
2.0 m	2000	0.75 hrs
4.0 m	2000	0.75 hrs
6.0 m	2000	0.75 hrs
8.0 m	2000	0.75 hrs
10.0 m	2000	1.00 hrs
16.0 m	2000	1.50 hrs
16.0 m	5000	2.25 hrs

Mechanical reliability has been tested to over 1.5 million litres with 100% mechanical success.

SMALL SCALE IRRIGATION