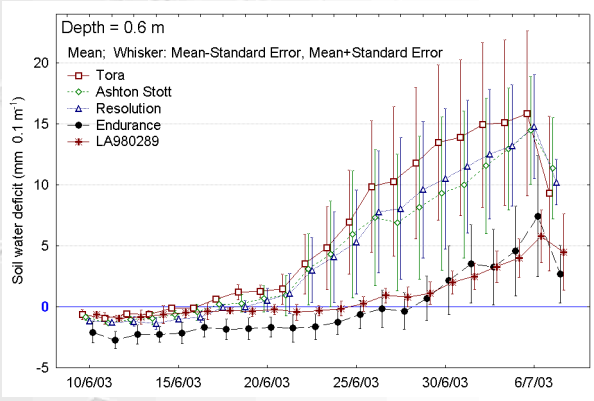
Lysimeter

Soil water deficit measurement



The Lysimeter is a fully automatic weighing system designed for monitoring weight changes in plant growth systems allowing researchers to assess information such as evapotranspiration and soil nutrient uptakes.

Accurate results

The heart of the weighing system is a series of digital load cell sensors which can be connected together to take a continuous series of measurements over a given time period which is programmed by the researcher . Readings can be taken from every second to readings every number of days.

The effect of changing influences such as temperature or humidity can be monitored by reporting the weight changes to our bespoke software.

Luc Bonneau of Cranfield University, England, states:

“Griffith Elder weight lysimeters were designed for an experiment to study the physiology related to the water use of 5 hybrids of willow coppice. The weights of the lysimeters were close to 400 kg and were measured continuously and logged every 20 minutes.

The Data-maid PC software was very handy to programme the logging intervals of the load cells and to store a large amount of data. The data was logged as mass in kg with a precision of 0.02kg . The information collected allowed us to quantify precisely the water consumed by the plants and to visualise the evolution of water consumption rate as water stress evolves.

Finally new fields of study are open as a new generation of weighing lysimeter emerged through the development of efficient and reliable digital load cells and software by Griffith Elder.”

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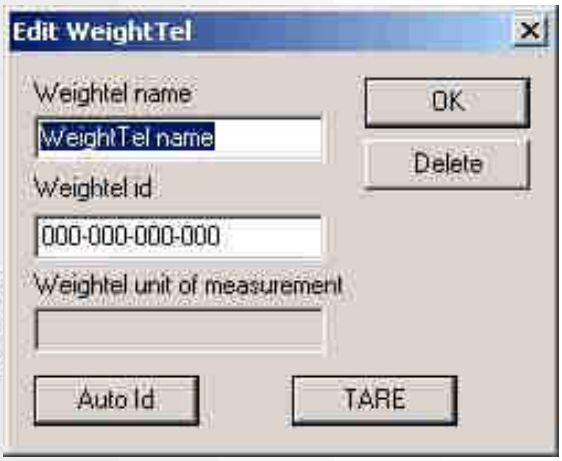
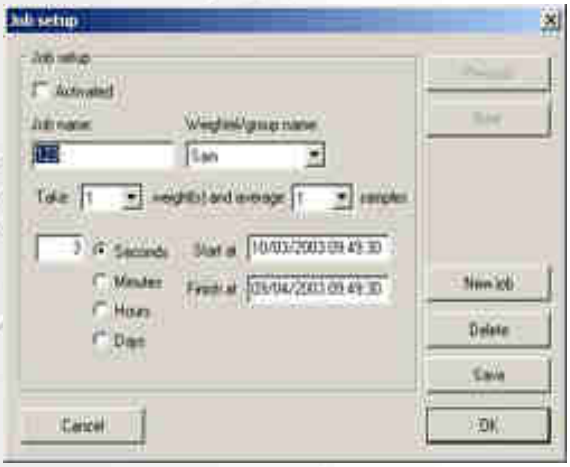
Data-Maid

Software for continuous logging





The Griffith-Elder Data Maid software package records changes in weight over a period in time on a PC computer running either Windows 2000 or Windows XP.

The system can be used to record changes in weight distribution over a number of individual digital load cells or individual weight changes at each cell.

Each digital load cell has its own unique identification and the cells can operate independently or can be grouped together to give the resulting total for the group.

Operator input is minimal with just selection of cells, length of period to monitor weight changes and the interval between readings of each load cell.

Any number of cells can be linked together (maximum of 32) and recording intervals for each cell can be selected from every second to any number of days.

Using the same software environmental conditions such as temperature and humidity can be recorded simultaneously so that reports of weight changes under changes in specific environmental conditions can be monitored and displayed.

Weigh-Tel and the Data Maid Software make an invaluable tool for educational and research facilities.

Reports

The Data Maid reporting facility is powerful and is user friendly and rapid graphic display of results is available at any period for individual cells, groups or totals.

The operator selects the parameters for the report, and the information to be shown. Information can easily be exported from the Data-Maid program to other programs for further data analysis. It is compatible with all spreadsheets.

Easy to Use

The Data-Maid software can be used with any size of digital load cell, so that from the smallest lysimeter to the largest it is now possible to record weigh data without the need to be present to capture the results. This gives a freedom to the task that was formally not available in an easy to use Windows format.

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