

'Weeggoot' in the Nursery Stock (Water supply based on weight)

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Why this study?

- Guiding water applications is important for:
 - efficiency of water use
 - crop quality
 - preventing leaching of nutrients
 - preventing (root)stress
- Step to fully automated watersupply

Aim of the project

Development, testing and optimizing of weighing systems for open field crops.

- development and testing of a system
- fixing the optimal amount of water



Left: experiment with the balance gutter in the middle right

Right: detail of the water supply system base don weight (balance gutter)t

ect is executed with Broere Beregening and growers of hardy nursery stock

Principle of the water supply based on weight

The plants are continuously weighted on the gutter with sensors that react on pressure. The waterbalance is the basis for starting the watersupply.

Waterbalance:

- decrease in weight by evapotranspiration (loss)
- increase in weight by plant growth
- rainfall
- watersupply

Approach

- A. testing of system at the experimental field at Boskoop (proeftuin Holland, Applied Plant Reseach)
- B. advising growers who use a water supply system based on weight

Experimental design

1. Comparing three strategies for water supplying
 - using watersupply system base don weight
 - using standard (watersupply) software
 - using a evatranspiration model developed bij Applied Plant Reseach
2. Two crops
 - Viburnum tinus
 - Thuja plicata 'cancan'
3. Overhead irrigation in six different waterblocks
4. Observations: plant growth, moisture content in the container, amount of given water

Simple experiments and observations will be executed with farmers who have installed the system water supply based on weight.

Meteorological data are important for directing the water supply and evaluation on the results.



Weerpalen van PPO en Broere Beregening

Future

Efficient water supply is important for plant quality. The right moisture content and preventing great fluctuations of the