

Better
choices...
For
better
business



AQUAMAT[®]
AQUATHERMAT[®]
ROOT ZONE HEATING AND IRRIGATION SYSTEM

aquamatsystem.com

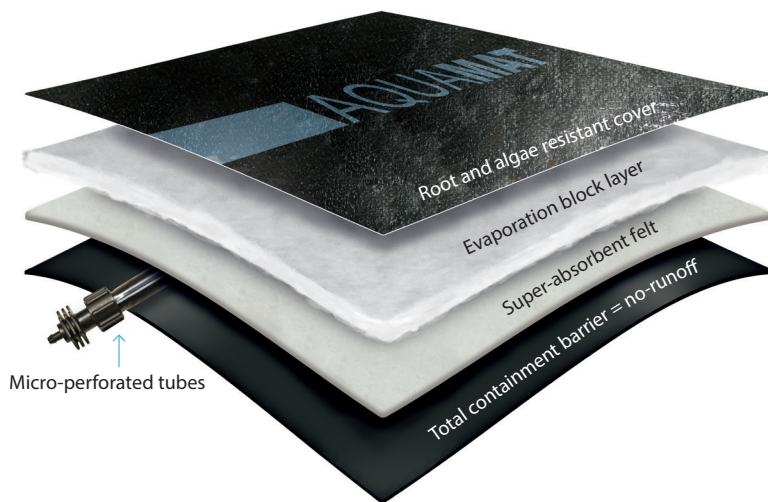


The most efficient solution to improve your profitability, save water and move toward sustainability.



Benefits

- Reduce labor costs
- Allows to place plants of different size and water requirement on the same Aquamat®
- Water savings by 80% compared with overhead watering systems
- Reduces by up to 80% fertilizer use
- Eliminate flower and foliage disease due to overhead watering
- Creates a stronger root system and accelerates plant growth



Uses

On benches or on the ground for:

- Greenhouses
- Garden centres
- Nurseries
- Green roofs

CUSTOM SIZES
AVAILABLE TO FIT YOUR NEEDS

Results

Labor



Watering cost / 1000 sq.ft of greenhouse

Hand watering \$1 100



Aquamats® \$88



Reduce water consumption



Nursery comparative trials at Université Laval

Water use Overhead 100



Water use Aquamats® 30



Faster plant growth



Nursery comparative trials at Université Laval

Weight (g/plant) Overhead 16



Weight (g/plant) Aquamats® 18



Several others trials have been conducted showing same or better results.

Flexibility

"One advantage of capillary mats is that plants of different size and water requirement can be placed on the same mat to meet different water needs". **Hort Technology April-June 2008**. And Aquamats® capillary mats can be easily moved from one production site to another.



INNOVATIVE PRODUCT
MINISTER'S AWARD FOR
ORNAMENTAL HORTICULTURE 2008

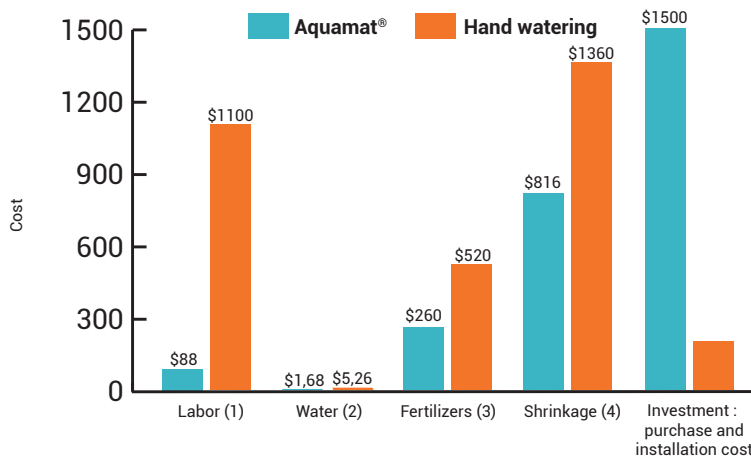


Profitability

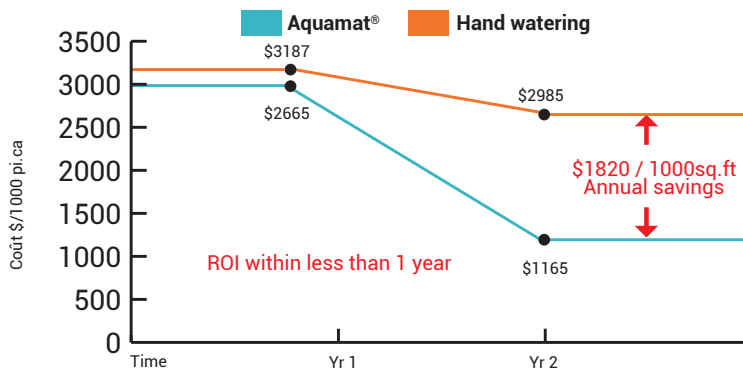
Comparing the economic feasibility of capillary mats versus others sub-irrigation system, overhead irrigation and microirrigation, showed capillary mats have the highest net return of the systems. (Haydu et al., 2004).

Aquamats® is a labor-saving alternative to hand watering in a retail nursery and will compensate for the higher initial investment within less than 1 year. Hort Technology April-June 2008.

Costs chart (/1 000 sq.ft of greenhouse)
for year-round production



Profitability chart (/ 1000 sq.ft of greenhouse)



*Note that a shorter production cycle = heating, labor etc. additional savings. Costs above are partial and based on a 12 months production cycle using Aquamat®.

(1): Ref. Prof. Kimberley Williams KSU. June 2012. \$1,10/sq.ft/year. Labor for hand watering.

(2): CIDES. January 31, 2007. Experiment on rain water catchment. Average water consumption of 37,6li(9,95 us gal)/sq.ft/yr. Water savings of 68% as per Quebec Ministry of Agriculture and Food 2003.

Cost of Water of \$70/1 M litre (264550 usgal)

(4) 5% shrinkage using hand watering versus 3% on Aquamat®. 8 pots/sq.ft @ \$1,70 each.

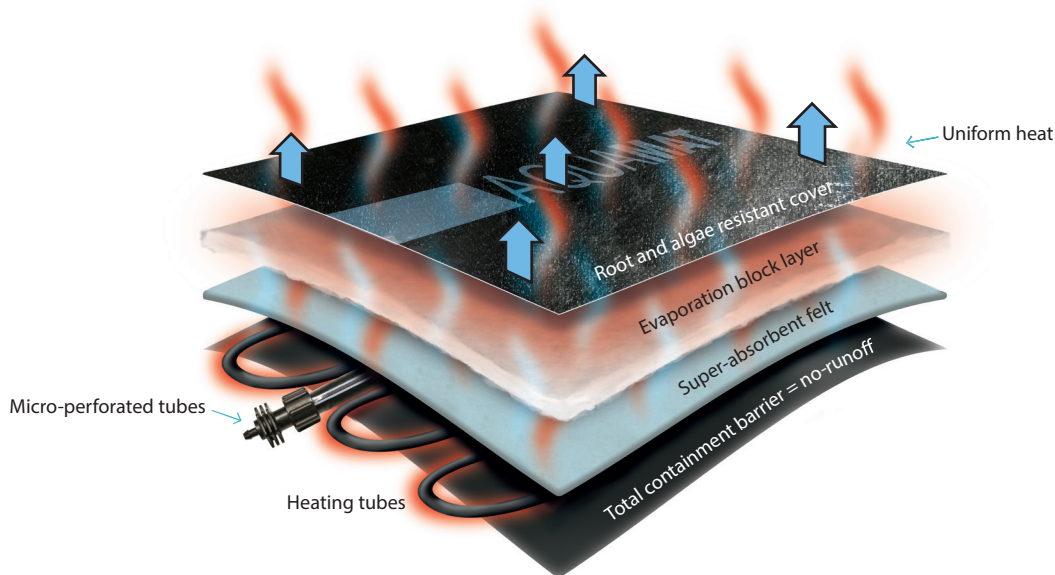
When energy cost savings encounter higher yields.

Benefits

- Stimulates root formation and seed germination
- Cuts energy consumption by 45% or more
- Promotes greater crop uniformity and top-grade plants
- Allows you to start production later in the winter and avoid lowest outdoor temperature



AQUATHERMAT[®] heats substrate evenly where it counts, at roots level. Air temperature could be reduce in order to get shorter and thicker plants while reducing heating cost.



Tests undertaken by CIDES have demonstrated that the use of capillary heating mats in greenhouse production is cost-effective in terms of energy. By significantly reducing the cultivation period for obtaining market-ready plants, they optimize the use of greenhouse installations.

Gilles Cadette, agronomist, Director of experimental development CIDES (Centre d'information et de développement expérimental en serriculture) St-Hyacinthe, Qc



of Research & Innovation

It started in 1991 with Jean Caron Ph.D, researcher from Université Laval, Quebec, Canada. His main objectives were to develop an efficient capillary mat system in order to reduce production costs in greenhouses and nurseries as well as protecting the environment by savings water and fertilizers consumption. Fundamental research on multi-layers capillary mat was the real beginning of Jean Caron project. Second step was to do some in vivo trials at Université Laval in 1994-1995. From these results, some modifications and trials were made on the mat between 1995 and 1998 and finalize the AQUAMAT® in 2001. The AQUATHERMAT® came on the market in 2007 to improve propagation success, % and time as well as reducing heating cost in greenhouses.



Irrigation system specifications for



and



Drip tape flow rate:

1.35 gpm / 100 feet

Mat water holding cap.:

2.1 gal. us / sq.yd

Equipment required:

- 3/4" diameter polyethylene water header
- Pressure regulator 12 psi
- Mesh filter 120-200 mesh

Heat system specifications for Aquathermat®

Temperature intake (max): 140 °F (60 °C)

Pressure (max): 15 psi

Flow rate: 0.006 GPM / sq.ft (0.017 LPM / sq. meter)

To heat substrate one degree over ambient air:

4.5 BTU/hr/sq. ft./°F

8 BTU /hr/sq. ft. /°C

90 BTU/hr/sq.m /°C

Equipment required:

- Recirculation pump
- Pressure regulator 12 psi
- Heat exchanger (for high temperature boilers)
- Manometer thermostat per growth zone
- Bottom insulation (styrofoam)

*Pair of manifolds sold separately



Widths (ft)	Lengths (ft)
3-4-5-6-7-8-11	5 to 300

Important notice

Growing surface should be flat (0,5% slope or less) and leveled so as to prevent water puddling on top of the mat.

Small quantities of water injected regularly are preferable to one long irrigation cycle (e.g. 3 cycles of 3 minutes rather than a single 9-minute cycle).

Substrate should contain at least 50% of sphagnum peat or coir.



«Aquamat® helps our operation to be more profitable: economy of manpower by 80% and water savings while having more uniform crop.»

Mike Fisher, Owner
Fisher nursery
Ripon CA

«Aquamat® is a nice product helping us improving our bottom line: labor savings, water savings, fertilizers and chemicals savings while having a very consistent crop and a quick ROI.»



Mr. Norm White, Pres.
White's nursery
Chesapeake VA



«Aquamat® has been an excellent tool for our operation. It follows the best management practices (BMPs) we are constantly striving for. It help us save labor, water, fertilizer, and reduce the spread of diseases. Quick payback!»

Phillip Rucks, Owner
Phillip Rucks Citrus Nursery, Inc.
Frostproof, FL

«Aquamat® has been a great tool for us: labor and water savings, less foliar diseases and flower damages, less shrinkage while having a consistent crop and a faster growth.»



Rob Swanekamp
V.P. Sales and Production
Kube-Pak Growers
Allentown NJ

To find out more information and where to purchase our products, contact us by calling 1-888-241-9600 or visiting:
aquamatsystem.com



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