

PlantCare Fact Sheet

About PlantCare

PlantCare, a Swiss based company founded by Dr. Walter Schmidt, specializes in proprietary wireless soil moisture sensors and revolutionary irrigation scheduling solutions with a clear focus on agriculture irrigation business and agriculture science.

PlantCare's main value proposition is to provide unique smart irrigation technologies that enable the efficient use of resources and eliminate waste.

PlantCare's story started back in 2004 with the invention of a new type of soil moisture sensor. Gardena, the leading DIY garden brand throughout Europe and a non-exclusive licensee since 2005, has sold more than 100'000 sensors based on PlantCare technology.

In terms of sustainability, PlantCare's patented solutions are seen by agricultural scientist and irrigation professionals as absolutely leading edge. In the field of agriculture research, PlantCare products are worldwide in use by agrochemical companies such as Syngenta Crop Protection and leading european research institutes like the Max Planck Institute of Molecular Plant Physiology in Germany. In the field of agriculture irrigation, many farmers in Switzerland and Germany rely on PlantCare smart irrigation controllers.

PlantCare Micro Heat Pulse (MHP) sensor technology

Different than all existing sensors on the market, PlantCare's proprietary soil moisture sensor "sees" respectively measures only the plant available water, the most crucial parameter in terms of moisture analyses or irrigation scheduling. Misleading bound water or water in the roots of a plant is not measured. Another issue with existing sensor technologies is that their moisture values are distorted due to the salt or fertilizer content in the soil, whereas the PlantCare sensor readings are unaffected by any of these contents.

PlantCare irrigation scheduling solutions

Water scarcity already affects every continent and an increasing number of regions are chronically short of water. In the context of food security, governments, research institutes, agricultural organizations as well as farmers are looking for ways for a better irrigation scheduling. Furthermore, many plant diseases and yield issues are related to inadequate irrigation. A further consequence of inadequate irrigation is the groundwater contamination from pesticides.

The two main questions in irrigation scheduling are when to start and irrigation and how long to irrigate. PlantCare's main investment in the past years was to find answers to these questions. The result is the PlantControl CX irrigation controller with the DRA technology - Dynamic Runtime Adjustment - and wireless moisture sensors.



Profitability

- increased yield
- less personal cost
- less water consumption
- less power consumption
- less fertilizer consumption
- less agrochemicals

„Been working for the last 25 years in the agriculture irrigation business, I did not see a greater innovation from any of the big players than from PlantCare. PlantCare's products and solutions deserve truly to be named as the most advanced smart irrigation systems on the global market. It is a quantum leap for our industry.“

*Kurt Waldis, Owner/CEO of a
Agriculture Irrigation Company, Switzerland*



Sustainability

- lower pest infestation
- less water consumption
- less agrochemical consumption
- no drain water
- no leaching of chemicals
- less energy consumption

“Our experiments show that thanks to the DRA technology the infestation by pests can be drastically reduced. Consequently, the use of pesticides is minimized.

The DRA method represents a real advancement in irrigation technology and is globally unique.”

*Prof. Dr. Rolf Krebs, Zurich University
of Applied Science, Switzerland*

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PlantCare irrigation scheduling solutions (cont.)

The PlantControl CX only starts irrigation, when a defined dry threshold is measured by the sensors. By defining also the target moisture after irrigation end, the DRA technology automatically adjusts irrigation runtime and thus keeps the soil always in a predefined moisture bandwidth. The self-learning characteristic of the system automatically takes into account any seasonal temperature changes, growth stadium of plant, sprinkler/hose pipe characteristics, changes in water supply pressure, water supply changes due to aging hose pipes etc.

With PlantCare's unique and patent pending DRA technology, many of the irrigation challenges are resolved.

- Optimally irrigated plants show a higher yield, are more resistant to plant diseases and consequently require less crop protection chemicals.
- Massively reduced water consumption, by preventing over-irrigation.
- Leaching of pesticides into the groundwater is massively reduced, as the DRA technology consequently prevents too frequent irrigation as well as too long runtimes.
- There is no need for seasonal irrigation adjustments as it is necessary with timers. The PlantCare DRA technology fulfils this task without any human interference.
- Visual checks of irrigation infrastructure is massively reduced, as the system has self-diagnostics, real time remote monitoring and alarm notification capabilities.

Summary

Starting with the invention of a unique soil-moisture/soil-temperature sensor, PlantCare has developed an impressive range of soil-monitoring products as well as the ultimate solution for smart irrigation. Besides an excellent price/performance ratio, PlantCare's extremely versatile solutions fulfill virtually any desire of farmers as well as research institutes.

PlantCare's products are science and field proven, worldwide in operation and have a lot of headroom for further developments.

Alongside the existing products and solutions, PlantCare has applied for additional patents for groundbreaking non-invasive moisture sensing technologies and irrigation methods. These new solutions are highly suited for soil moisture monitoring and irrigation of golf courses/sports fields. Especially with a revolutionary new irrigation method, sprinkler irrigation on golf courses could become obsolete.



Eijkelkamp

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a Royal Eijkelkamp Company

P.O. Box 4, 6987 ZG Giesbeek
Nijverheidsstraat 30,
6987 EM Giesbeek,
The Netherlands
T +31 313 880200
F +31 313 880299
E info@eijkelkamp.com
I <http://www.eijkelkamp.com>



Less Stress

Automatic SMS Alert, when:

- valve does not open
- filter is clogged
- etc.

Full remote control:

- Data retrieval by mobile phone
- Change of settings by SMS

„After intensive field tests with different products, we have decided to implement the PlantCare data logger and sensor systems on a worldwide bases. It's accuracy, reliability, wireless technology and remote monitoring capability were pivotal for our decision.“

**Matthias Gaberthüel, Global Technical Manager
Syngenta Crop Protection, Switzerland**

„The PlantControl CX is just what we are looking for. It's versatile and sensor controlled smart irrigation scheduling options allows us to set different moisture bandwidth for the same crop or different crops. These capabilities are absolutely unique and very crucial for our research.“

**Dr. Claudio Screpanti, Team Leader
Syngenta Crop Protection, Switzerland**

„With the PlantControl CX we increased the yield on our berry crops like never before. In addition, our time consumption for operating and controlling our irrigation and fertilization system has been reduced by more than 90%. At the same time water as well as fertilizer consumption were reduced and the plants are much more resistant against pest and fungus.“

The ability of the PlantControl CX to send us an alarm per SMS when a valve is defect or the water filter is blocked is another very valuable feature“.

Patrick Vollenweider, Berry Farmer, Switzerland