



Environment and energy

Colsen International b.v.

Newsletter
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In this newsletter:

- Pilot plant Photanol® operational
- Phosphate removal from RO brine
- Minimalisation water use in fruit sorting

Pilot plant Photanol® process operational

Photanol® represents a process in which blue green algae combine photosynthesis with fermentation to convert CO₂ under the influence of light in organic products e.g. ethanol, ethylene or lactic acid. After the “proof of concept” was delivered financial government support was obtained to build a pilot plant. This pilot was designed and constructed in the glass house of the Science Park of the University of Amsterdam. Colsen has gained vast experience in designing, building and commissioning pilot bio-reactors and installations. In anticipation of large scale application of the technology a lot of attention was given to the material and part selection and to the post production treatment steps. Based on this approach a new Photo Bio Reactor concept was established. The opening ceremony was on Friday March 23rd 2012.



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Development phosphate removal from RO brine



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During Reversed Osmosis (RO) in water purification not only pure water but also a high salt fraction (brine) is generated. In order to prepare this brine for discharge to a sewer system or WWTP Colsen develops a pellet reactor in close collaboration with PEKA Kroef (Odiliapeel, NL). Via co-crystallization of salts on an inorganic “germ” pellets are generated with a diameter of 2 to 8 mm. At this point in time the system is capable of removing > 80% of the phosphates. The pellets thus formed are separated and dried. They constitute a perfect nutrient mix directly applicable as fertilizer in agricultural applications. The simple design the so-called MemPhos® reactor coincides with relative low investment costs. Operational costs are also minimal, because the use of chemicals is reduced to a bare minimum.

Reduction of water use for fruit-sorting companies

Colsen International b.v. and partner Alewijnse Industrie b.v. were nominated for the best project proposal in the tender of the Partners for Water 2011 program. Colsen and Alewijnse are involved in a pilot project to design, construct and operate a water purification system for the fruit sector in South Africa. Goal of the pilot installation is to minimize water use in fruit sorting factories by means of facilitating water recycling and reuse, improving the visual and chemical quality and removing harmful substances (e.g. pesticides and fungi). This collaborative project has a duration of 2 years. For more information see [News flash of AgentschapNL](#)



[more information](#)

Colsen International b.v., Environment and Energy

Kreekzoom 5, 4561 GX Hulst - Tel.: (+31)114-311548 - Fax.: (+31)114-316011

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