



ANWT – The Expert for Microporous Carbonaceous Material

## About the Enterprise

Advanced New Water Technologies GmbH & Co. KG (ANWT) is a company based in Germany in co-operation with a partner in Italy responsible for technical implementation and production.

The core business of ANWT is based on a process developed and patented by ANWT for the production of granules from biological residues as well as a patent-pending process for the production of a microporous carbonaceous material from organic (residual) substances, which is further processed into granules as well.

All granules have specific physical properties (e.g. high storage capacity) and can store biological and/or chemical substances.

Current application areas:

- OTTO O.A.S.E. Is a granulated, organic/mineral soil aid that improves root and plant growth by optimising the water balance and additional nutrient supply.
- OTTO KATZENSTREU is a granulate made from Corncob that not only in addition to its good absorption properties, is completely biodegradable.
- OTTO PYROCHAR is currently under development and can be used, among other things, as a soil aid and as a food supplement in animal nutrition.



Photos: Co-operation partner: AGRINDUSTRIA TECCO s.r.l., Cuneo, Italy

## OTTO O.A.S.E. (I)

OTTO O.A.S.E. is a new, patented soil granulate. It consists of a combination of different and dried plant fibres and water adsorbing, finely ground minerals. These are mixed with Superabsorbers (SAP) specifically developed for agricultural use. The resulting mixture is compacted using a patented process into solid, spreadable granules.

The granules, when incorporated into soil, act as a rechargeable mini water reservoir and supplies the soil with natural main and trace nutrients. Furthermore soil fauna is stimulated by the addition of organic matter. Soil health and soil structure are thereby optimised and the soil's ecosystem is stabilised.

This double action mechanism (soil fertilisation and water storage) of the granules promotes healthy plant growth. Additionally the potential yield of many plant can be increased.

OTTO O.A.S.E. can be used in any region, especially those with low or irregular precipitation with long dry periods.

The product is particularly economically advantageous wherever irrigation is expensive or difficult to perform and high water costs or a limited water supply limit agricultural activity.





## OTTO O.A.S.E. (II)

It is able to store up to 30 times its own weight of water. The water stored this way is available to the plants as necessary. As a result, longer periods of draught can be overcome. OTTO O.A.S.E. increases water-efficiency, being able to save up to 50% of irrigation water.

The product can be used in the areas of landscaping, cultivation of vegetables, ornamental plants and fruit as well as in agriculture and forestry.

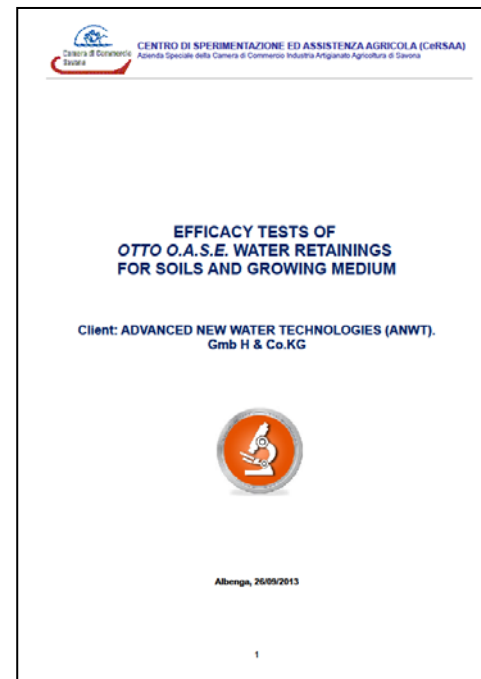
The granules can be spread by hand or with any conventional spreading or injecting tools.

OTTO O.A.S.E. can also be mixed with soil additives, organic/mineral fertilisers and other substances.

The product is completely safe for the environment and free from seeds of weeds as well as free of toxic substances from compost or animal waste products.

It is approved as a soil aid according to the European Fertiliser Regulation.

Scientific publication (CeRSAA):



[http://anwt.eu/wp-content/uploads/2015/07/Relazione-166\\_ENG.pdf](http://anwt.eu/wp-content/uploads/2015/07/Relazione-166_ENG.pdf)

## OTTO KATZENSTREU (Cat Litter)

Otto KATZENSTREU is a granulated Cat Litter made from Corncob flour which is fully biodegradable. Due to the microporous structure of the granules it is highly absorptive and thus very economical and user-friendly. The granules can be produced in the grain sizes from 0.5 mm to 5.0 mm.

OTTO KATZENSTREU is currently undergoes testing (Results will be published on [www.anwt.eu](http://www.anwt.eu)) and its product launch is scheduled for the end of January 2017.



## OTTO PYROCHAR

Biocharcoal (Biochar or Pyrochar) is produced by the pyrolytic carbonisation of pure plant materials.

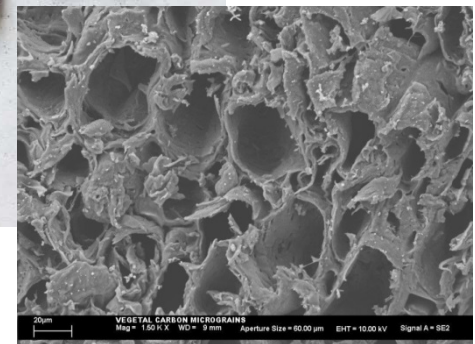
The OTTO PYROCHAR granules is characterised by low dust development despite the very low water content (<10%). Because of its stable granulate structure (2 mm to 4 mm), it can be used in any conventional agricultural transport systems, including pneumatic systems.

The dense macroporous structure allows targeted application of additives, particularly natural biological substances, to meet the requirements for modern animal welfare.

OTTO PYROCHAR can be customised in accordance with individual requirements in regards to amount and dosage of additives.

The process for the production and use of OTTO PYROCHAR is patent pending.

The results will be published at [www.anwt.eu](http://www.anwt.eu).



## About Stefan Peter Otto



After finishing Secondary education Stefan Peter Otto started his commercial training at Degussa AG in Frankfurt. Shortly after the successful completion he went to Italy in his role at Degussa AG and from there began an international career within the group. He was responsible for the regional divisions Southern Europe, India and Middle East, as well as managing director of subsidiaries in countries such as Taiwan, Iran, India, Dubai and towards the end of his Degussa activities in Italy. In 2006, he agreed to an early retirement scheme and set up the ANWT in 2010.

His life abroad gave him and his wife, who had accompanied him on all his foreign assignments, both the will as well as the experience and knowledge necessary to strive for a better future for the environment and the people who live in it.

This gave rise to the idea of producing granules from natural residues, which can be used a multiplicity of ways: as a storage medium for water and nutrients, as a carriers for additives or as an absorption material. A partner for the technical implementation and production of these special granules was found and a patent was filed successfully. Another patent on a method for producing microporous carbonaceous materials and its use is currently under review.

Until June 2016 Stefan Otto was a board member of the German-Italian Chamber of Commerce in Milan.



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