



MO Liquid

by

MO TEC

The Power of Nature-
Compost and liquid concentrate of compost



Composting of Organic Material has an ancient Tradition



More than 3000 years ago China

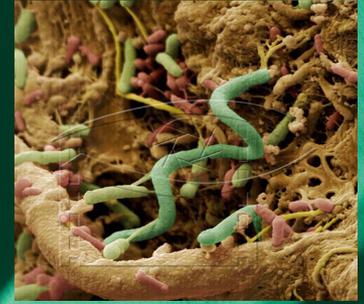
3000 years ago

Egypt

Compost was much valued godlike. They knew about the positive power of compost as a growth stimulant as well as a natural plant protector.

For many centuries compost is used by gardeners and farmers.

What does Composting mean?



Composting names the biological process where organic material is destroyed in the main to carbon dioxide (CO₂) and water (H₂O) caused by the influence of atmospheric oxygen (aerobic) of bacteriums and fungis (heterotrophic micro organisms).

One part of the emerging products of this process is converted to humus soil.

Compost mainly consists of invisable micro organisms and visible substrates.

Liquid Concentrate of Compost

Solid compost is not always applicable:

- root zone mixes
- leaf applications etc.

that was the reason for trying to produce a liquid compost eluate.

Back in the eighties, the first successful attempts with liquid compost eluate were experimented by the University of Bonn (Germany). The „Bucket method“ had the disadvantage that huge quantities of high quality compost were needed in order to produce enough liquid compost eluate.

Oregon (USA): in the nineties, first attempts were started to increase the number of micro organisms that were washed out of compost in a tank. The disadvantage of this method was that the produced eluate with a high amount of aerobic micro organisms had only a short durability (approx. 24 hours). If the eluate was not used on time it changed into an anaerobic state.



Description and Comparison of the usual Procedures of the Compost Extraction



Bucket Method:

mix compost and water in a bucket, stir it up and then filtrate it.



Tank Method:

The compost material filled in a tee strainer is hangs in a tank with fresh water, which was mixed with several components before. Due to the water circulation a better extraction will be emerged.





Liquid Compost Concentrate by a Patented Practice

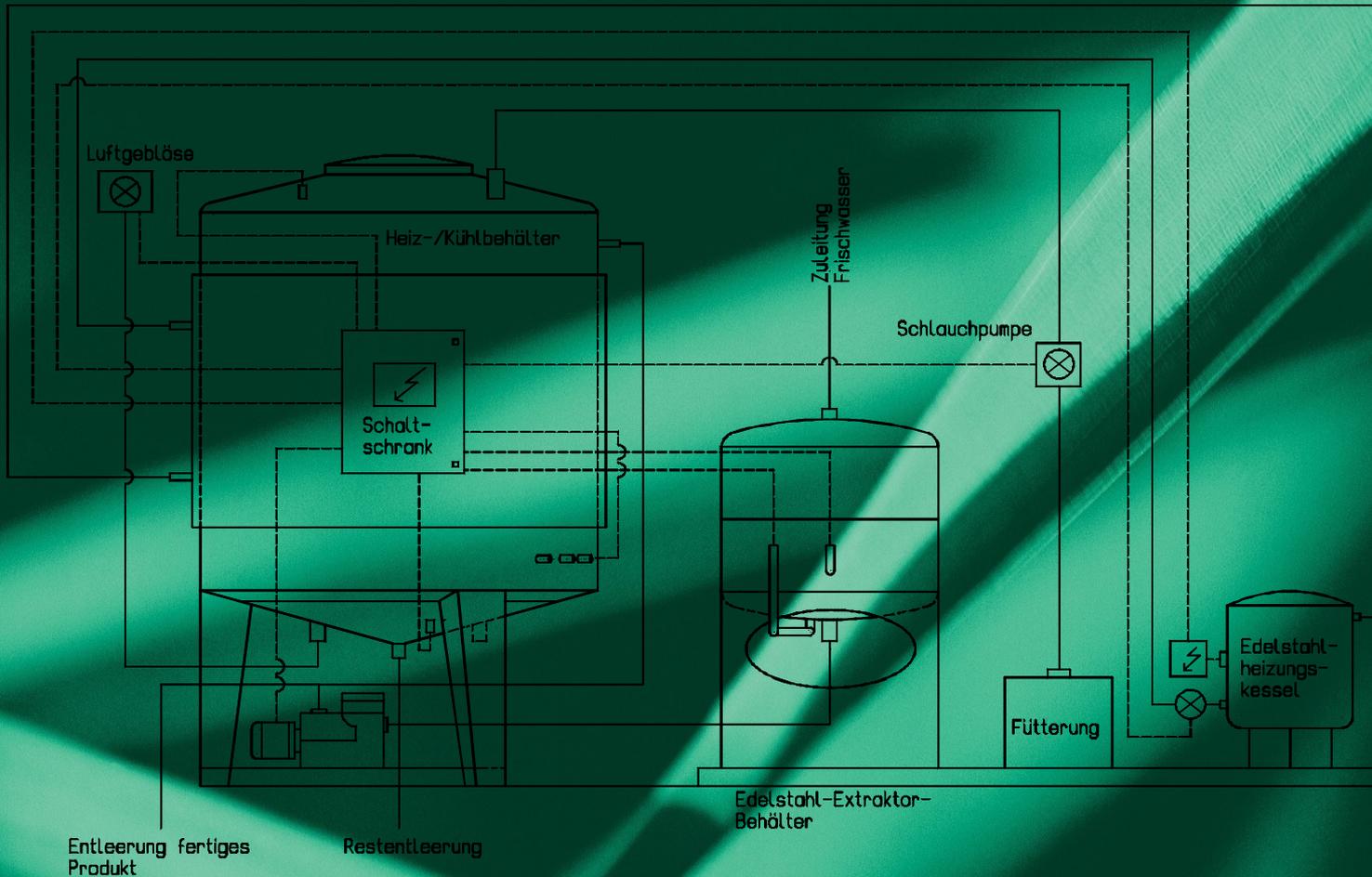
In 2000, a new production process of compost extraction was developed in Hohenbrunn near Munich (Germany), with which it was possible to produce a liquid compost. The new compost eluate is higher concentrated and aerobic which can now be stored longer. Therefore it is much more flexible for the user.

MO Liquid is produced by a patented procedure which guarantees the highest quality standards.

MO Liquid - Production Process

Out of a quality compost, which is produced on base of strict prescribed recipes, the micro organisms are washed out in a separate extraction tank and are increased by adding nutrients in a fermentation tank under controlling the temperature and the addition of oxygen by a special system of . Extraction and prductiuon process are standardised. The whole production process is controlled and computerised, that it is possible to guarantee allways the same quality of liquid compost. Compared to the traditional systems the attested concentration of micro organisms is more than 10.000 times higher.

MO Liquid - production process



MO Liquid - production process



Optimized production:

- compost washed out in a separate tank
- production process under controlled, ® computerised conditions
- temperature control (heating and cooling)
- a special aeration system guarantees a long durability of the eluate
- production of 1.000 l eluate in 60 until 72 hours
- highest concentration of micro organisms of all competitors
- level of bacteriums $2,5 \times 10^{10}$ bis 12

MO Liquid - applications



The possible applications of VARIOTEC Life Essence are very manifold, so as described in the following.

The field of applications range from applications in farming, nurseries, vinicultures, sportsfields, golf courses, for disinfections, for prevention of odour emissions to composting construction timber etc.

The liquid compost eluate is optimised by adding nutrients during the production which are special proven for the different application.

LMO Liquid - applications

1. Turf on sportfields

- creating a balanced biology in the ground, especially for seeding
- revitalisation of existing turf
- reducing thatch
- improved root growth
- reduced vulnerability against leaf diseases
- reducing *Poa annua*

result

- up to 30% less water demand
- up to 100% reducing chemical pesticides
- significant savings of fertilizer

MO Liquid - applications



2. ecological farming - nurseries

The successful applications of the liquid compost eluate on turf induced the Humboldt University of Berlin (Germany), the University of Almeria (Spain), the Technical University Munich (Germany), and the University Budapest (Hungary) to start research on applications in the field of farming and nurseries. The results of the research were outstanding. Despite waiver of chemical pesticides the crops were significantly higher respectively the harvest was earlier. The Phytoftera could be prevented without application of copper compounds. The taste of greenhouse tomatoes and cucumbers, which were treated with liquid compost, was much more intensive and natural as the taste of the non-treated.

MO Liquid - applications

3. ecological viniculture

In the viniculture the application of the liquid compost eluate is also very successful. Since concentrate applied preventively in the leaf functions like a chemical pesticide against powdery and lettuce downy mildew, can be abandoned chemical pesticides widely.

Since more than four years is used the liquid compost eluate very successful in one of the biggest wineries in Santiago de Chile.

MO Liquid - applications



4. Eluate used as disinfection agent

Dr. Franz Kosak, veterinarian of the trotting track Munich, uses the liquid compost eluate very successfully for disinfecting the litter. Already after the first treatments was the result, that the allergies of the horses could be reduced. Injuries on the legs of the horses could be vet successfully.

5. Eluate used in the waste management

Prof. Hashemi, University Rostock (Germany), used the liquid compost eluate in the waste management. By regular spraying of household garbage clumps he could reduce volume of disposal sites up to 50%.

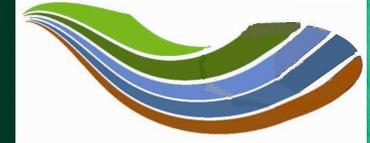
MO Liquid - applications

6. Liquid compost eluate for prevention of odour emissions

The company Bavaria, Parsdorf near Munich, uses the eluate in kitchens, alehouses and restrooms in beer tents (for example at the Oktoberfest Munich) for disinfection as well as for prevention of odour emissions.

The feature of the eluate preventing odour emissions is used successfully since 2008 by the farm cooperatives in the area of Bad Toelz (Germany). The with eluate treated liquid manure bred during bringing out to the fields no inconvenient odour emissions.

MO Liquid - applications



7. **MO Liquid** used for composting construction timber

On request by companies in the UAE, if the eluate is usable for an effective composting of treated construction timber, researches would made in a close cooperation with the University Hohenheim Stuttgart (Germany).

The result was, that in a relatively short time (approx 8 to 12 weeks) the chaffed construction timber during regular treatment with the eluate could converted to a high quality compost.

At present two compost works are under development in Dubai and Sharja.

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