- Agriculture -

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www.plocher.com
With the **PLOCHER® Overall Concept** ...
secret of success

treating causes instead of fighting symptoms
Authorisations and Registrations:

Listed in EC-Eco-Basic Regulation 834/2007

Listed in FiBL Switzerland and Germany

Registered according to article 9 of the Fodder-Hygiene-Regulations (EU) 183/2005

Soil and plant products in accordance with Fertilizer Regulations (DüMV)

We guarantee that there are no risks involved using PLOCHER-Products (valid since Dec. 2000)
**reduce expenses**

<table>
<thead>
<tr>
<th></th>
<th>quality</th>
<th>quantity</th>
<th>environment</th>
<th>expenses</th>
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<tbody>
<tr>
<td><strong>PLOCHER®</strong></td>
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<td><strong>overall concept agriculture</strong></td>
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**TECHNICS WITHOUT PROBLEMS**

- soil and plant supplements,
- additives for slurry and compost,
- animal feed additives,
- water vitalization
Stop the „Leak“ and Reduce Expenses

Expenses for:
- sick animals
- medication
- chemicals
- concentrated feed
- fertilizer
- fuel

with the PLOCHER-overall concept
- reduction of expenses
- increased quality
- increased quantity
- ecological production

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Avoid Soil Erosion ...
Aerobic Soil Management

- silted single-grain soil structure
- densified chunks
- anaerobic zone
- stagnant water

- mulch
- crumb structure
- crumble structure
- worm channels

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Damages by Compaction
Basis for survival:

Active soil
Vital plants
Quality food

Composted (aerobic) soil is biologically very active and suppresses pathogens.

Rotting (anaerobic) soil gives rise to pathogens.

Soil

- mulch
- crumb structure
- crumble structure
- worm channels

- silted single-grain soil structure
- densified chunks
- anaerobic zone
- stagnant water

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Humus gradually releases all necessary nutrients to the soil.

Therefore a long-term, continuous and natural nutrient supply is available.
Rotting (anaerobic) soil gives rise to pathogens:

- high percentage of fusaria in the soil (15 - 20%)
- anaerobic processes - adding organic material causes foul (rotting) odours
- high percentage of pests and pathogenic bacteria
- use of large amount of chemicals lead to the type of soil as seen in the picture below

Decomposing (aerobic) soil is biologically very active and suppresses pathogens

- presence of organisms that produce antibiotic substances
- low percentage of fusaria (less than 5%)
- aerobic processes – soil smells fresh and pleasant (like forest soil)
- excellent air and water storage capacity:
Soil Activation

with
plocher soil activator-set 1-2-3:

• improved quality
• increased quantity
• reduction of fungal attacks
• increased fertilizing effect
Climate Protection through Humus

If the humus layer in our agricultural soils was increased with 6 %, the surplus CO$_2$ would be contained.

*Source: University Prof. Dr. August Raggam, Margarethenstraße 1, AT 8403 Lebring
E-Mail: raggam@inode.at   Available from: info@oesto.at
**Free Resources in the Atmosphere**

\[ \text{N}_2 = 7.8 \text{ t/m}^2 \]

is made available by an active soil biology
- mycorrhiza
- azotobacter
- etc.

for the nutrient supply

**CO\(_2\)**

is fixed by an active soil biology.

Important for
- photosynthesis
- nutrient availability

without humus no CO\(_2\) storage
2.700 l water
+ 6,28 t CO$_2$
+ 1,6 t NO$_x$
+ 0,05 t volatile substances
+ HC
+ 0,02 t particles (soot)

according to SÖL

$\Rightarrow$

= 1 t pure nitrogen

2 t crude oil

2.700 l water

Destruction of Resources by Production of Synthetic N$_2$

contamination of groundwater

wash-out 46%

49,2%

minimal soil life 4,8%
Economical loss & environmental damage caused by mineral fertilizers & anaerobic slurry/manure
Guarantee for Groundwater Protection and Active Soil Life

Consequences of densified soils:

- deficient water storage capacity
- soil erosion
- dangers of flooding
- reduced regeneration of the groundwater
- disturbed filtering effect = nitrate contamination of the groundwater

- water storage capacity
- water filtering
- reduction of harmful substances
- protection of groundwater

Picture: neighbouring field to Karl-Heinz Möhrle, Überlingen: managed conventionally

Picture: farmer Karl-Heinz Möhrle, Überlingen: with PLOCHER (10 years)
Stall Hygiene: Reduction of harmful substances/pathogens and odours - emission control

Homogenization: No and/or minimal mechanical stirring necessary. Reduction of manpower and energy. Optimum distribution of nutrients.

Improved fertilization effect: Effective foliar fertilizer, harmless to plants. Natural plant protection. High feed value.

Humus development: Soil and groundwater protection.

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Quote from the EU-Report: „Economy and environmental protection“
November 1999

double-blind study

- 3 year 5 b EU-project (financed by the EU)
- execution and evaluation by commission of farming and horticulture Meetjesland, Belgium
- plocher slurry supplement ag1041

Quote: „Economy and environmental protection join hands.“

Result of treatment with plocher slurry

Reduction of:
- salmonella  (none)
- coli bacillus  99,4 %
- enterococcus  86,3 %
- clostidium  72,0 %
Field trials of the Agencia de la Extención Agraria, Spain

analyzed on 26.05.1999 untreated pig slurry
analyzed on 24.05.2000 PLOCHER-treated pig slurry

Nitrogen in %

Lime

Magnesium

Phosphorus

Potassium

Nutrients remain in root zone, available for plants
Optimum fertilizer effect of the PLOCHER-slurry
Two Comparable Farms
Pigs + Crop Rotation Potatoes

With PLOCHER overall-concept and PLOCHER treated slurry since 1994.

Managed conventionally

Potato fields shortly before emergence.

Sandy soils (27 – 30 soil points).
PLOCHER Treated Slurry
The ideal foliar fertilizer with fungicidal effect.
No scorching of the plants.

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Recycling Nutrients with PLOCHER-Composting

Composted manure with PLOCHER

E. g. wine marc:
- Untreated
- With PLOCHER

Re-use as valuable fertilizer and soil conditioner
happy pigs

better performance
less work
less cost
higher quality
cattle
pigs
horses
sheep
goats
poultry
fish

A PLOCHER perspective of
soil - plants - water - animals
PLOCHER overall concept for more than 15 years. Products in use:
• plocher pig slurry calcium-carbonate or as organic sugar beet molasses
• plocher fodder supplements (50 g/t dry fodder)
• all purpose cleaner for cleaning the stall
• stall-harmonizer
• plocherkat for water vitalization and control of lime buildup

Around 70% reduction of vet. medicine
Successful Livestock Management with the

PLOCHER Overall Concept

- improved meat quality
- better feed conversion ratio
- no waiting time (cell count quarantine)
- vitalized animals

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Farm: Rupert Paulus, Otterzhofen 2, D-93339 Riedenburg (Bayern)

22 ha crops
18 sows
140 fattening places

Results:

• N-fertilizer reduced by 33 %
• since 1998 minimal base fertilization
• Since 1998 no application of chemical fungicides

Total Production Expenses - farmer Rupert Paulus

Start with PLOCHER
Optimization of an Organic Farm in Switzerland

Higher quality feed with less fertilizer

Abb. 2: Futterproduktion und Hofdüngerverbrauch 1997-2007. Die Futterproduktion pro Fläche und Jahr konnte von ca. 8'000 kg auf etwa 15'000 kg Trockensubstanz pro Jahr praktisch verdoppelt werden. Dabei sank die eingesetzte Hofdüngermenge von 1.3 DGE auf 0.7 DGE pro ha.
Yield of Clover/Grass Ley with PLOCHER

E.A.R.L. MAREILLES – plot DONZEIL
growth of grass-clover in 3rd year of cultivation

First cut on 28 June 2008:
Control: 7.1 t DM/ha (69% grass, 31% legumes).
PLOCHER: 10.7 t DM/ha + 50.7%
(68% grass, 32% legumes).

Second cut beginning of August:
Control: 2.6 t DM/ha.
PLOCHER: 3.2 t DM/ha + 32%.

Total quantity of both areas
Control: 9.7 t DM/ha.
PLOCHER: 13.9 t DM/ha = 43%

Average of both cuts

Increased yield

Products used:
PLOCHER soil and plant products
Field-monitoring report from Canada:

Chart of Yield – Maize

Increase of Yield:

3,65 t/ha = 30 % plus

with plocher soil activator

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PLOCHER Vital Plans
(usage recommendations)
always start with soil activator 1-2-3

Why?
The crop residues have to decompose rapidly
so that e.g. maize straw doesn't become
a hatchery for fusaria in the winter.

Composting = Hygiene

In spring soil life develops very quickly.

Important for the vitality and
development of the plants.
# Example Vital Plan: Maize

<table>
<thead>
<tr>
<th>BBCH</th>
<th>PLOCHER-Products</th>
<th>amount/ha</th>
<th>Sonstiges</th>
</tr>
</thead>
<tbody>
<tr>
<td>After harvest and in spring</td>
<td>ak 1750 soil activator 1-2-3</td>
<td>first application: 300 - 500 g/ml each</td>
<td>Can also be mixed with PLOCHER treated slurry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 g/ml each</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 g/ml each</td>
<td></td>
</tr>
<tr>
<td>Seeds</td>
<td>ap 3051 plants do</td>
<td>20 g per unit</td>
<td>Treat seeds 1 - 3 days ahead; if already treated mix with seeds in spreader</td>
</tr>
<tr>
<td>20 6 – 8 leaves</td>
<td>ap 3051 plants do</td>
<td>100 g</td>
<td>Can also be mixed with PLOCHER treated slurry and sprayed on</td>
</tr>
<tr>
<td></td>
<td>ap 3151 active-leaf mg</td>
<td>200 g</td>
<td></td>
</tr>
</tbody>
</table>
Costs for chemical, synthetic and biological plant protection

Costs Trend Conventional Farming

In stages to residue-free production with the PLOCHER Overall Concept:

- PLOCHER Soil Activators
- PLOCHER Plant Products
- PLOCHER Water Vitalization

Only successful in combination!
With our technology
- proven in practice since 1980 -
we help farmers to:

- reduce expenses
- increase quality and quantity
- reduce manpower
- produce ecologically
- protect the environment
Thank you very much for your attention