

AGROPROTEINKA

AmCham, April 24 2008

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- 50-year continuity and tradition
- two plants for high temperature processing animal by-products (first - 1984, second - 2006)
- 300 tons daily category 3
- 100 tons daily category 1 i 2
- 2007 – processing 80 000 tons animal by-products



- collecting and processing – not polluting the soil, water, or air
- prevention of dangerous infections, parasitic animal diseases spreading from animals to animals and to people
- ecological protection – animal waste disposed in nature – fast process of decomposition – gases (nitrogen compounds, sulfides, green house gasses) – dangerous for people
- 100% recycled



CERTIFICATION

- ISO 9001 (2002)
- HACCP (2002)
- GMP (Good Manufacturing Practice) (2002)

- This year ISO 14001
EMS, EMA



CATEGORIZATION OF ANIMAL BY-PRODUCTS

- category 1 – by-products especially dangerous (transmittance of mad cow disease)
- category 2 – by-products dangerous to animal and human health
- category 3 – not posing a direct threat to animal and human health

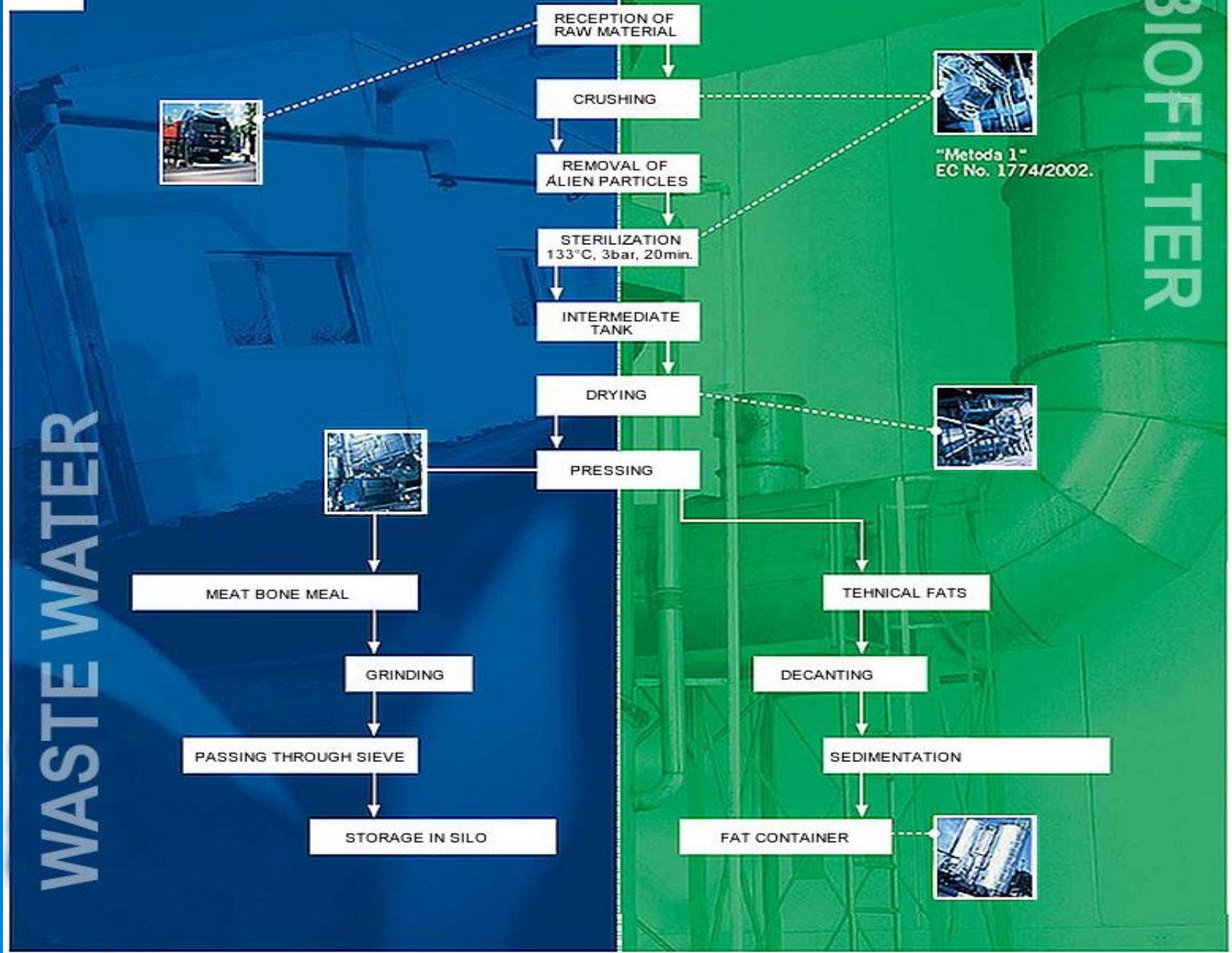


- technological procedure of processing animal by-products – conducted according to the EU standards – sterilization Method 1 (EC No. 1774/2002. Annex V, chapter III)
- 25% solid residue – MBM (fertilizers, mariculture)
- 15% liquid residue – animal fat (recyclable sources of energy)





Process of production



ENVIRONMENT PROTECTION

1) installing conditioning and filtration for polluted air – biofilter

➤ plant for category 1 i 2 – biofilter

➤ plant for category 3 – biofilter

2) mechanical-chemical pre-treatment of waste water

3) biological treatment of waste water – May 2008

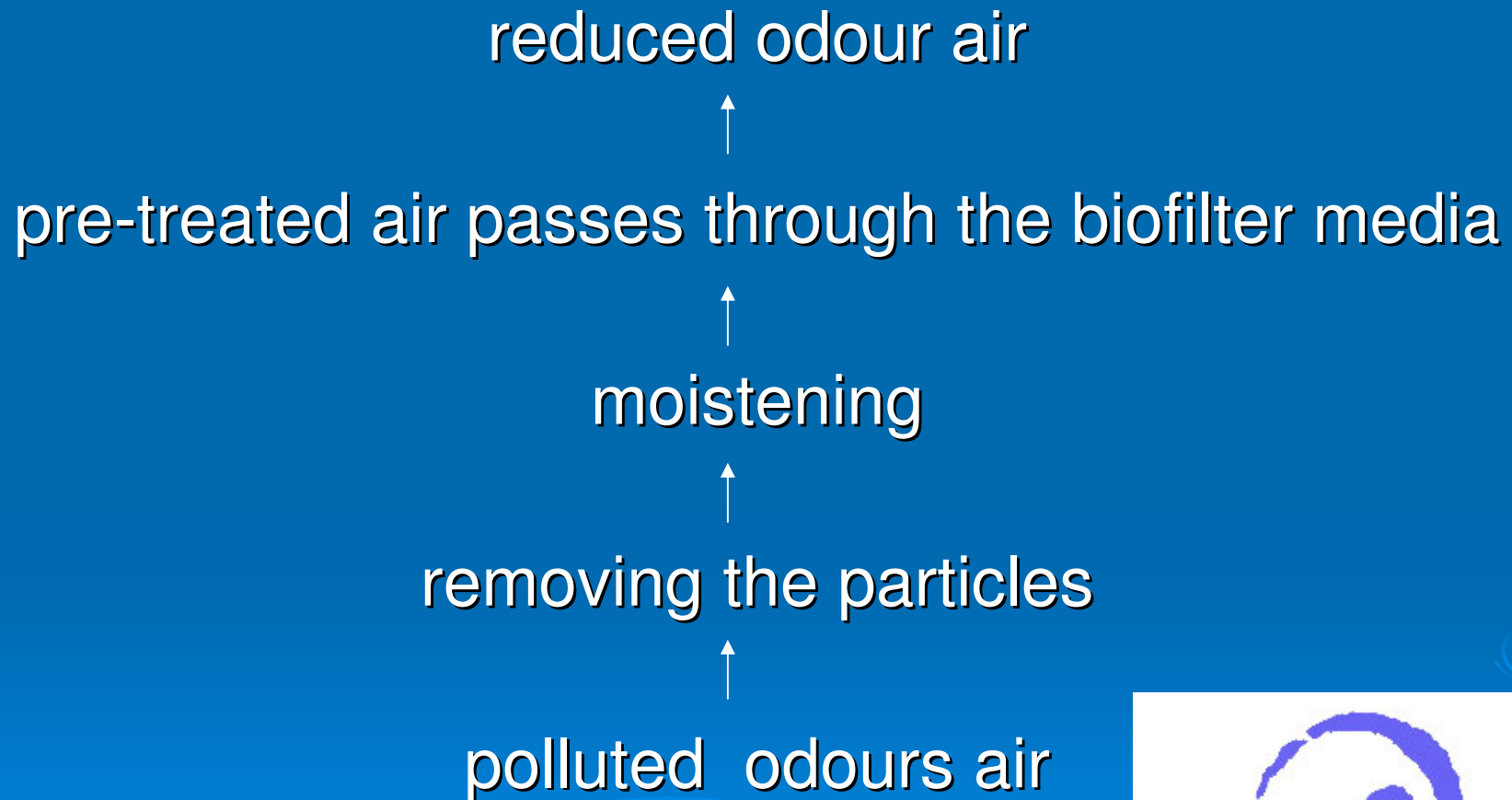


BIOFILTER

- one of several air pollution control technologies that use microorganisms – treat odour air
- can reduce odour emission between 85-100%
- key factors that affect effectiveness: biofilter media moisture content and residence time
- biofilter media: wood chips (increase the media`s porosity) and compost (source of microorganisms and nutrients)



How does a biofilter work?



- polluted air before passing through biofilter media has to be moist at least 95% (important for microorganisms)
- temperature 10 – 40 °C
- pH in biofilter media – pH 6 - 8
- basic advantage of this biological treatment – microorganisms constantly renew biological media
- organic biofilter media (pufer) can adsorb acid and alkaline compounds from polluted air





BIOLOGICAL WASTE WATER TREATMENT

Sequential batch reactors (SBR)

- oxygen is bubbled through the waste water to reduce biochemical oxygen demand and chemical oxygen demand to make suitable for discharge into sewers
- option for anoxic or anaerobic conditions in the same tank
- good oxygen contact with microorganisms and substratum
- good removal efficiency



- four stages of treatment: filling, aeration, settling and decanting
- aeration stage – nitrification
- settling stage – denitrification
- decanting stage – withdrawal of the final effluent





FUTURE

- in the near future – biogas plant





Thank you for your attention

