



# IZOLING BIOMASS

REPLENISHING DEAD GROUND SURFACES



# EXTRAORDINARY SOLUTION FOR GREENING AREAS

This is not just another tool for greening areas, but an unique solution in the field of waste recycling technology.

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- **IZOLING** is a modern, eco-friendly biomass obtained from recycling process and applied as a water-saving soil-substrate.
- The **IZOLING** biomass is received from waste not used in the usual recycling process, like all kinds of fibrous materials.
- In the **IZOLING** technology these waste fractions are processed into a sterile bio-mass.
- The **IZOLING** production process can be easily introduced into every municipal waste management system as an additional instrument that increases the system's efficiency.
- Adjusting waste collection to **IZOLING** technology is associated with low investment costs.



# TECHNICALLY SPEAKING

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- **IZOLING** is obtained from organic and inorganic fibrous materials that are mostly useless in the traditional recycling process.
- Thus produced biomass is enriched with biological material according to patented methods – as a result, a **universal reclamation material is obtained**.
- The quality of the final biomass is comparable with the real soil of the highest class.
- While cultivation of semi-arid regions encourages erosion of soil, using **IZOLING** decreases desertification processes
- Application of **IZOLING** is accomplished when the plants reach self-sufficient existence and minimization or suspending of water supply is possible.
- Such technology provides a positive change in climate conditions of the application area.



# MULTI-PURPOSE ARTIFICIAL SOIL



## Reclaiming desert and dusty areas

**IZOLING** is the only proven soil created from waste where plants may root, start vegetation even in extreme condition areas such as deserts or areas heavily degraded by human activity.

The mass is highly hygroscopic. Just a 10 hectares desert plot irrigated for several days will become a "service-free" green oasis.



## Fuel for energy production

After appropriate treatment in accordance with **IZOLING** concept, used waste can be burnt and used for obtaining energy. In this way, once problem becomes a new source of income.

**IZOLING** mass is a high-calorie alternative fuel.

The residue from burning after suitable preparation can be used as a fertilizer for plants.



## Strengthening of slopes

Properties of **IZOLING** mass enable strong rooting of plants, which in turn helps to stabilize land, e.g. in construction of roads and embankments under the highways.

# BENEFITS

## WASTE MANAGEMENT AND PROCESSING

- Improved waste processing efficiency
- Usage of waste materials that are not recycled or used for other purposes

## LAND AREAS

- Usable in low-water supply areas and desert soil
- Revival of unfertile land areas
- Decline or reversal of desertification process
- Usable at contaminated soil areas
- Revival of otherwise unfertile areas (heavy plants surrounding, city zones...)



# WHY IZOLING?



## EXTREMELY ECO-FRIENDLY

made primarily from recyclable waste



## COST-EFFICIENT

low production and application costs



## RESISTANT TO ATMOSPHERIC PHENOMENA AND EROSION



## HIGHLY HYGROSCOPIC

absorbs water from environment



## WATER-SAVING

consumes 30-40% less water than  
current technologies



## PERFECT FOR GREENING UNFERTILE AREAS

# EXTREMELY ECO-FRIENDLY

Created from the waste (organic and inorganic materials) that mainly remain unused in common recycling process (which represents **30-50% of all the waste at landfills**):

- All kinds of fibrous materials
- Paper and cardboard
- Textile
- Packaging

## WASTE CODES THAT CAN BE USED FOR PRODUCTION OF IZOLING

02 01 03	Plant mass	20 01 10	Clothing	19 12 01	Paper and cardboard
02 01 07	Forest waste	19 12 08	Textiles	03 01 01	Bark and cork waste
02 03 82	Tobacco waste	19 12 12	Textiles	03 03 08	Waste from paper/cardboard planned for recycling
20 01 01	Paper and cardboard	19 05 03	Compost	15 01 01	Paper and cardboard packaging
17 02 01	Wood	20 01 11	Textiles	19 08 05	Municipal sewage waste



# **COST-EFFECTIVE AND EASY TO BE PRODUCED**

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Can be easily introduced into every municipal waste management system, as an additional instrument that increases the system's efficiency - adjusting waste collection to this technology is associated with low investment costs:

- For waste separation, already existing machinery is used
- The selected raw material is further processed at very simple and cost-effective production line
- With the use of patented technology, a special biomass is received and adequately enriched with biological material (also according to patented methods. As a result, a universal reclamation material is obtained



# HIGH QUALITY ARTIFICIAL SOIL

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Waste fractions from recycling process are processed in the sterile biomass applied as a patented technology provides a breakthrough in the so called greenification projects.





# WATER-SAVING AND SELF-MOISTURIZING

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- Biomass has unique characteristics that enable plants' growth even at a poor water supply
- Sprinkled with water, the mass keeps humidity even in the hardest weather conditions and provides the optimal basis for plants' growth
- After the hydration of this mass, the shell is formed that connects this mass and protects against moisture loss and wind blowing





# PERFECT FOR GREENING UNFERTILE AREAS

Research of constant and extract sample had shown the possibility of using the “artificial soil” for reclamation and revitalization of degraded areas.

- The quality of the final biomass is comparable with the real soil of the highest class.
- Upon being produced, biomass is a dry and light pulp, which is easy and inexpensive to transport
- At the place of destination, it is decomposed and laid as a layer
- The layer's thickness varies between 5 and 15 cm, depending on the needs
- During one vegetation season it assimilates into the land



## EFFECTS OF USE – WASTE MANAGEMENT

- Increase of landfill capacity
- Reducing volume of waste going to landfill by 30%
- Extension of the lifetime of existing and constructed municipal landfills and reduction of their operating costs
- Creation of additional jobs at waste management facilities/landfills
- **IZOLING** can be used as an inert layer to cover municipal waste
- **IZOLING** can be used for reclamation of sludge wastelands
- Significant reduction in landfills maintenance costs



# EFFECTS – ECO-CONSCIOUSNESS

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- Environmental education of the society on the separation and management of municipal waste
- Contemporary environmental regulations enforce selective collection of waste at source and promotes technologies and methods to recover raw materials and energy from them
- Scientific studies can be continued in order to improve the quality and optimize the implementation of **IZOLING**





**TESTED AND  
PROVEN**



# IZOLING – BIOMASS FROM WASTE

Pictures show main components of IZOLING - paper, cardboard and mill that shredded these into mass





# NEW LIFE FROM IZOLING

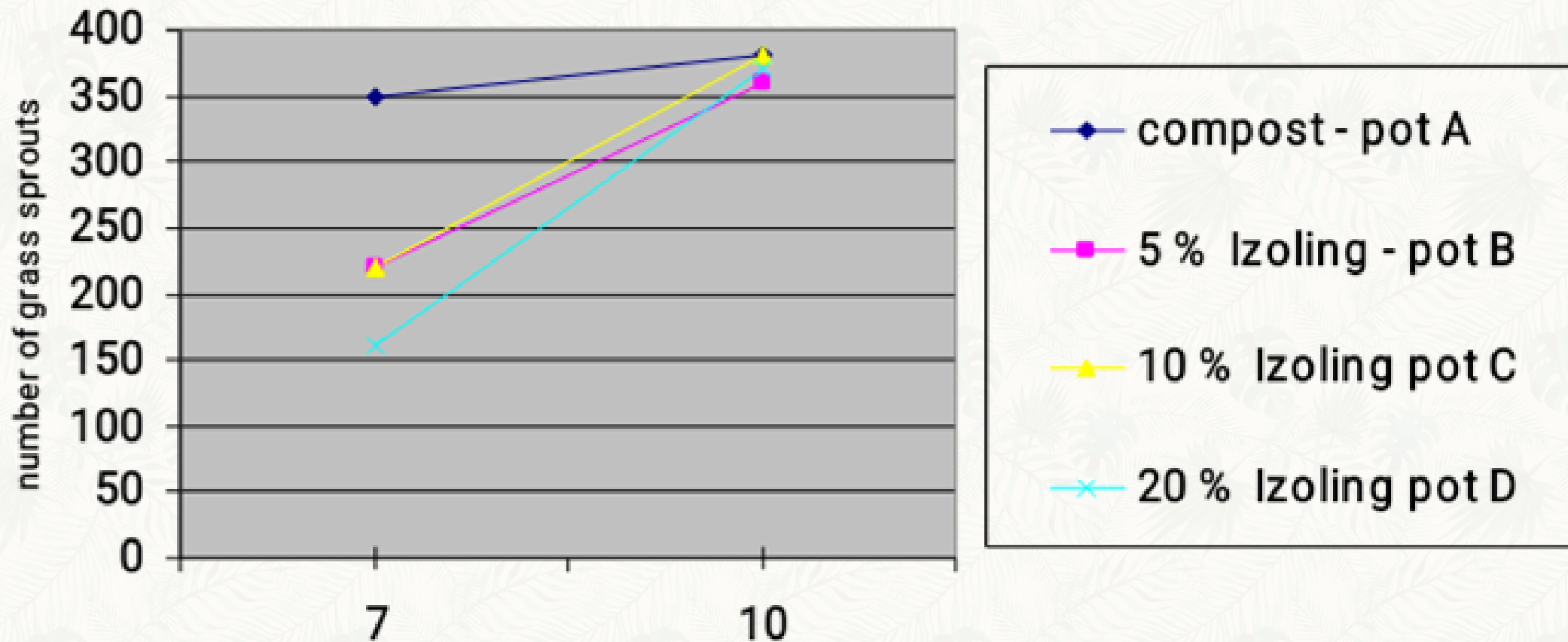


The photos show a mixture of **IZOLING** prepared with compost and germinating grass in individual pots





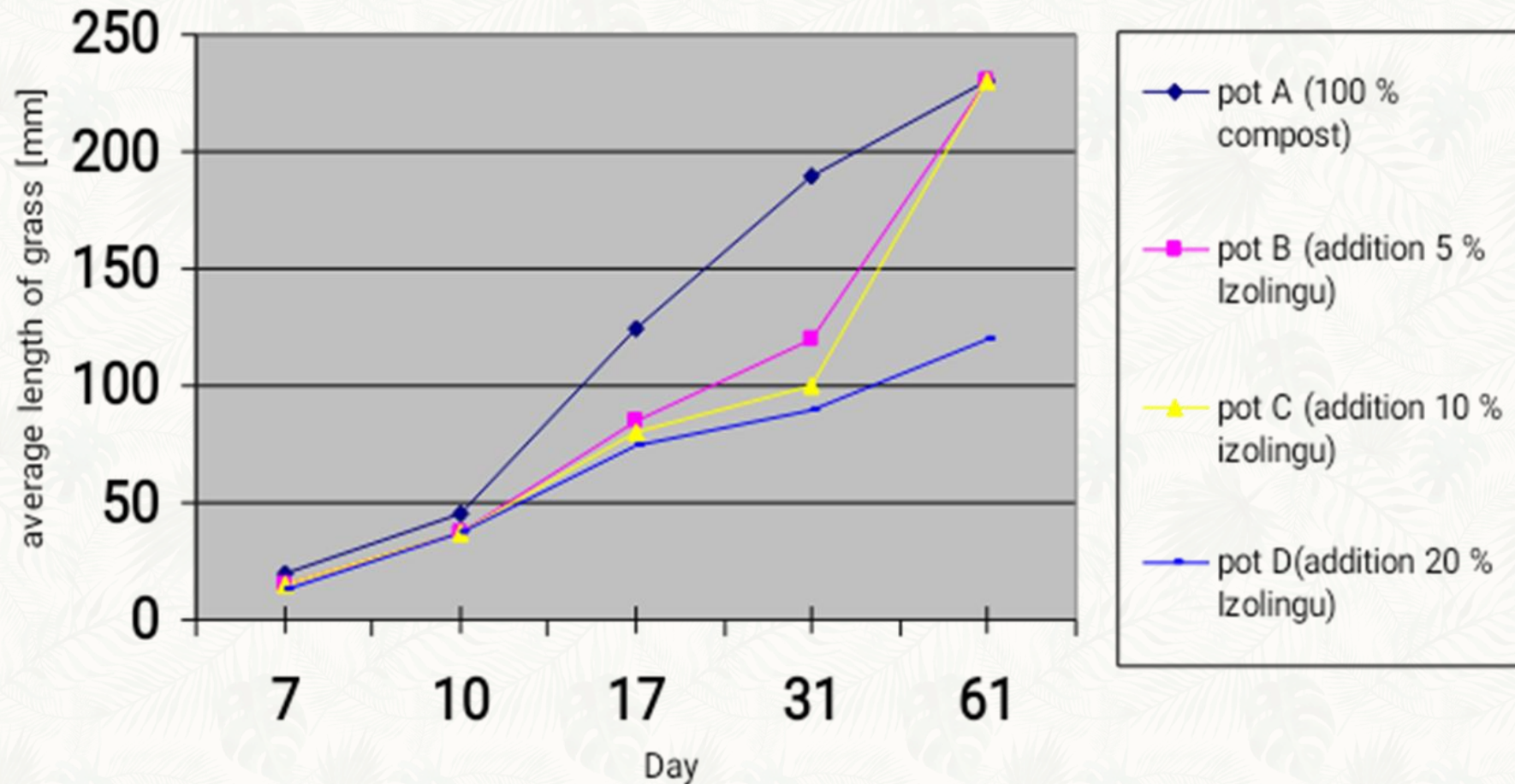
## STATS – GERMINATION RATE



Rate of germination of grass seed in each compound.



# STATS – RATE OF GRASS GROWTH





# RECLAMATION OF DEGRADED LAND



Reclamation of degraded area in Czeladz, Poland



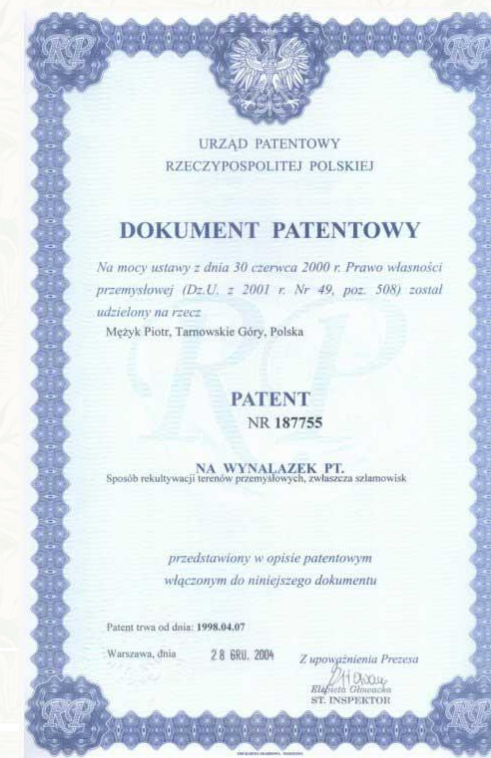
# IZOLING – PATENTED SOLUTION



**Patented technology for covering of municipal waste**



**Patent for creating active mass (soil) from fibrous waste materials**



**Patent for reclamation of industrial and degraded soil**



# IZOLING – INTERNATIONALLY ACCLAIMED



**EUREKA – Brussels 2002**

**Silver Medal**

***Technology for Communal  
Waste Recycling***



**Lepine International Convention**

**Paris 2001**

**1<sup>st</sup> Place**



**Ecology Competition**

**Poland 2001**

**Recommended Technology  
Award**



# THE MOST COST-EFFECTIVE INVESTMENT

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Potential investor should acquire waste that is used in this technology in the most efficient way:

- Through selective waste collection system
- By cooperating with waste sorting facility



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**CONTACT US**

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