MoTSoM Technology for Enzymatic Hydrolysis

Enzymatic Hydrolysis

Goals:

- Industrial development of small towns and settlements
- Stabilisation of demographic situation
- Production of raw materials for industrial chemistry with good prospects for small-scale chemistry and final product production from relevant raw materials
- Creation of a high-protein fodder base for animal breeding and processing
- Ensuring the employment of population (of quite highly-skilled specialists)
- Improving the stability of energy and food security of a region

Strengths:

- Zero environmental load and significant increase in share in the “green economy”
- Products are high-margin and have a stable demand in the market
- Development of associated sectors of the economy: efficient animal breeding, production of polymer materials and polymer based products
- Involvement in economic turnover of sizeable raw material base that contains cellulose-lignin raw materials

Sources of Raw Materials

Fallen Deadwood and Weed Trees

Agrowaste

Forest Industry Waste

Waste Paper

Sorted Municipal Solid Waste

MoTSoM Technology

Enzymatic-Hydrolysis Plant

Spirits

Fodder Yeast

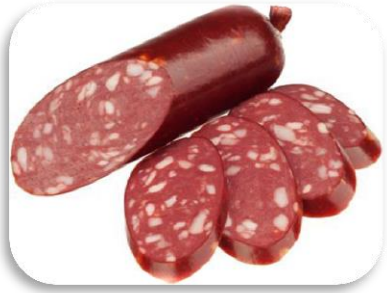
Lignin

Fuel

Selling ethanol to oil-producing companies
Component of ecologically clean petrols

Agriculture

Animal Products
Processed Animal Products



Medicine and Chemical Industry

Activated Carbon

Chemical Industry

Solvents
Dyes
Acetic Acid

Bioplastic Production

Furniture
Household Utensils
Consumer Electronics

Economic Evaluation

1 tonne of dry sawdust

Market price:
$0-14/t

+

20 kg/t of enzymes

Market price:
$54

30% spirits

Market price:
$912 – $963/t
Gains: $271

25% yeast protein

Market price:
$1 520/t
Gains: $338

30% lignin

Market price (bioplastic):
$3 378/t
Gains: $811

(substitute for ABS plastic)

15% bioorganic fertilisers

Costs: $406/t
Profit: $1 419/t

Enzymatic Hydrolysis

Principal Technological Differences:

Indicators	Conventional Technology (Hydrolysis Plant)	MoTSoM Technology (Enzymatic Plant)
1. Products produced:		
- spirits	+	+
- fodder yeast	+	+
- lignin	Requires additional technological conversion of raw material	No need
2. Level of toxicity of production (ecological load)	High	Low
3. Required level of security	High	Low
4. Capital costs	High	Low
5. Technological cycles	7	4
6. Sources of raw materials	Unlimited	Unlimited
7. Cost of final product	High	Low
8. Speed of process	Low	High
9. Conversion rate	80%	100%

Contact information:

Sergey Uglovskiy	+ 7 903 777 83 19
Alexey Sakharov	+ 7 917 244 15 77
Andrey Makarkin	+7 926 021 33 99

Email: usm7@yandex.ru

Thank you for attention!