

Production of **Gramitherm**[®] **Grass is unlimited!**

The name **Gramitherm**[®] refers to the utilization of Gramineas (botanical name of the family of grasses) for the production of thermal insulation products. **Gramitherm**[®] is produced throughout the year from different grasses, including permanent pasture and sown grass varieties, which are well known and commonly used as fodder grasses. Production of grass has several positive effects on the environment:

- Provision of habitat and a fodder bases for wild animals such as hares, deer, birds or insects
- Stabilisation of agricultural soils (prevention of soil erosion)
- Improvement of ground water quality by retention of nitrates and pesticides
- Improvement of crop rotation systems and related repression of soil born plant diseases.

The use of grassland is decreasing steadily throughout the last 20 years, due to the following reasons:

- Corn has replaced grass as the primary feedstock for milk and meat production. Corn has a higher density of digestible energy compared to grass, and is better suited for the prevalent intensive production systems.
- Milk quotas have been introduced in most European countries for reduction of surplus production, and the number of cows has been decreasing steadily.

Today, preservation of grassland has become a concern in many European regions, mostly for tourism, environmentalists and hunters.

It has been estimated recently that throughout EU25, some 5-10% of the total grassland area or 30 mio t of grass has become available for new uses, without replacing the conventional utilisation of grass for feed production. Grass delivers around 6 t/ha of fibers for production of insulation boards, the respective ratio for hemp and flax is only around 1.5 t/ha. Furthermore, grass primarily grows on non-arable land, whereas the production of hemp and flax requires potentially scarce cropland. The raw material requirement for production of **Gramitherm**[®] can be put into the following context:



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- A production of 4.5 Mio m³ of **Gramitherm**[®] (around 5% of the European insulation market) would require some 375'000 t of grass, or only 1-2% of the amount available within the EU25 for new uses.
- A production of 125'000 m³ of **Gramitherm**[®] (around 5% of the Swiss insulation market) would require less than 0.1% of the total Swiss grassland area.

The numbers make it clear, that the production of **Gramitherm**[®] has a negligible effect on the overall grassland utilisation. The availability of grass is not a limiting factor to the development of **Gramitherm**[®] in the insulation sector!

Grass being cut until June contains more cellulose fibers, it is best suited for production of **Gramitherm**[®]. Grass being cut after June contains more protein, it is best suited and reserved for feeding cows. In the production process, the digestible grass components are separated from the fibers, and used for animal feeding or for production of biogas. The farmer can produce fibers for **Gramitherm**[®] production **and** feed his animals. The plant nutrients contained in grass are recycled onto the grass production areas, so there is almost no need to add fertilisers.

For production of grass, farmers have no external costs for seeding, harvesting, pesticide treatment, or rental of expensive equipment. Production of grass allows farmers to maintain a good crop rotation system, it implies no risk of crop failure due to hail, periods of cold or rain or drought or other. Growth of grass of production of **Gramitherm**[®] does not require and does not receive subsidies!

Thus, production of **Gramitherm**[®] helps the environment and generates new income for farmers, without infringing the use of grass for animal feed purposes. There is no issue food versus fuel, or feed versus fibre related to it.

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