



FRI's laboratory analyses fungi and timber decomposition

Equipment is not modern but is operating



Microscope NU 2, magnification up to 2 000 x



Thermostat – constant temperature for cultivating mycellium



A banc with 40 strains of pathogene and wood-destructive fungi



Isolation cell – sterility for isolation of fungal pests



Analytical balance - up to 4 digits



Investigated biomass

A/ Investigations in wood decay prevention:

1. Buildings and constructions, e.g. houses;
2. Open air storage of chips

B/ Investigation of wood and wood chips decay for generation of :

- 1.compost;
- 2.mulch.

FRI is a member institute of the Bulgarian Academy of Sciences.

In Bulgaria, forestry technology, work science and material science have been neglected for decades as an misunderstanding of market economy (“the Academy must not do what businessmen do”).

Now, praxis-oriented studies become important. FRI gives them a new start creating a Laboratory ,Foresrty technics and bio-energetics‘

Purposes:

1. Certification PEFS/FSI of forest land and forest production
2. ISO-based quality control;
3. Examination of mechanical and technical quality of wood;
4. Machinery and technology of log houses construction;
5. Modern energy efficiency technologies;
6. Production, logistics and use of woody biomass ;
7. Training of experts and workers;
8. Appraisals.

In Bulgaria, wood-based buildings were dominating until the middle of XIX century and are still present in historical places and remote regions.



Traditional Bulgarian house – city stile



Traditional Bulgarian house – village stile



Log houses in the mountains



A mountain barn



Frame-build wattle-and-daub house

Spatial Distribution:

- Log buildings in mountain regions
 - Fachwerkhäuser in the plains,
- Both based on wood

Construction of a Fachwerkhaus:

Stone wall fundament

Frame construction of logs

Wattle plastered with a mix of clay and straw

Whitened with lime

milled log houses – a promising new market in Bulgaria



milled log houses



Turning of logs



Precise cylindrical form



Half-moon-shaped groove



Coped logs

We also think about handcrafted log houses



With RALF PFIRSICHT (GERMANY-2011)



A hand made log house



Drywall training (KNAUF-2012)



Wall isolation



joint



Windows construction



Rot protection elements



Isolation materials

Thank You !

