

FaRRI
Fast and Aggressive Remedial Response to Insect and Fungal Decay

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 PROGRAMME
 2007-2013

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MANUAL

Surveys and monitoring of Fungal Decay

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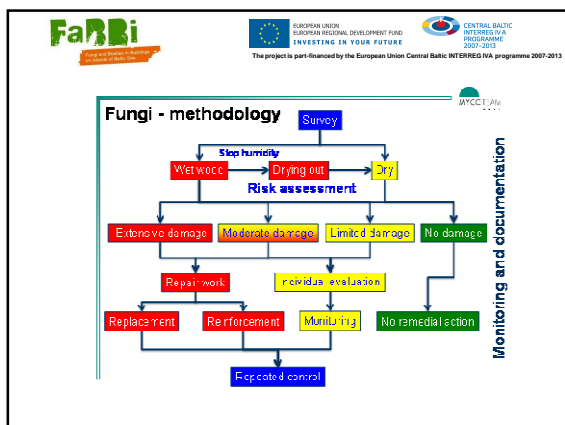
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Monitoring fungal decay

Fast and aggressive attack should be stopped as fast as possible – NO monitoring!

Environmental factors should always be monitored

Fungal activity should be monitored after remedial treatments or when attack is slow



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SURVEY

Defining the object

The object needs to be defined; by place (address), type of building (castle, church, manor farm house etc.)

If the inspection is restricted to certain parts of the building they need to be defined (floor, walls, ceilings etc.)

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Layout of building construction

Drawings illustrating the layout of the building should be obtained if possible.

They are useful for understanding hidden spaces not easily accessible for inspection.

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Early history

Find out if there are earlier reported problems with water leaks or attack by fungi and insects.

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SURVEY Data

All information with regard to the inspection should be given in the report:

- Address
- Parts inspected
- Persons
- Dates
- Weather conditions

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SURVEY Equipment

Carpenter's rule	Measuring tape
Digital camera	Moisture meter
Do. with fibre optics	Note book
Hammer	Pilodyn
Increment corer	Plastic bags
Knife with sharp point	Resistograph
Labels	RH meter
Laptop	Thermometer
Marker pen	

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SURVEY External appearance

Inspect the building and its location from the outside.

Look for obvious faults in the construction that may lead to unacceptable uptake of water.

Make notes and take photographs.

Look at the surroundings! Is there evidence of wet ground? Trees giving deep shade?

Moisture problems are more easily seen on wet days.

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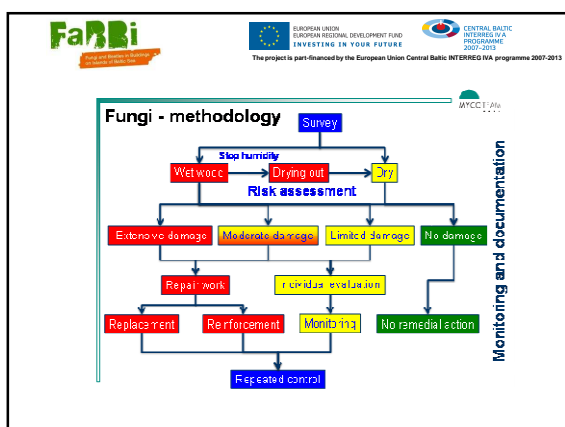
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SURVEY

Next slide illustrates a useful scheme for further inspections



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SURVEY Odours in the building or brown dust?

Dampness, or a foul or mouldy odour indicate conditions where decay may be expected.

Brown dust may be spores of the dry rot fungus *Serpula lacrymans*. This indicates severe attack by the fungus.

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SURVEY

Searching for decay

Look for obvious signs of decay.

Start with wet wood resulting from leaks or other problems.

Inspect places where the external examination gave rise to suspicion of possible problems.

Remember that the attack may be hidden away under floors or under walls.

A camera with fibre optics can be used or building material has to be removed

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Internal decay

Internal decay of large sized specimens can be detected by using an increment corer or a Resistograph.

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Detection of decay

Fungal decay is mostly seen as a mycelial growth on the surface of timber, often accompanied by visual destruction of the wood.

The strength of the wood can be assessed by using the sharp point of a knife, a Pilodyn or a Resistograph.

Note. Salt deposits may be mistaken for mycelium. Light microscopy can be used for analysis.

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Causes of fungal attack

Fungal attack does never occur in dry wood.

It therefore occurs as a result of unintentional wetting of the wood resulting from leaks or faults in building construction.

The sources of moisture needs to be identified and further wetting of the wood must be prevented for all future.

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Risk assessment

Determine if the attack is present in wet wood or if the wood is dry.

If the wood is wet, replace timbers if necessary and start drying out procedures.

If the wood is dry, the attack has occurred earlier and the stopped when the wood dried out.

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Risk assessment

Optional

Identify the decay fungus if possible.

Samples may have to be taken and sent to specialists for identification.

Assessments of viability of decay fungus.




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SURVEY
Risk assessment

Determine the extent of damage:
Extensive, Moderate, Limited or
No Damage

Here a Pilodyn and a Resistograph may be used.
Microscopic examination of wood may be required
to determine degradation

Decide on timber replacements and/or reinforcements
to maintain structural safety




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MONITORING
Fungal decay

Monitoring of the environment always required, to
make sure that the wood remains dry.

Monitoring should be done after remedial treatments or
when decay is extremely slow.

Detailed inspections should be carried out at least
once a year to make sure that no attacks have started

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MONITORING
Fungal decay

Visual or photographic monitoring by observing the
structure from the same point at every occasion.
Note any changes in appearance!

Assessment of wood strength using a Pilodyn and/or
a Resistograph.

Tests should be done at next to earlier predetermined
points. Use labels or marker pen.
Compare new results with earlier results.