

# Different types of storm damaged trees



*Broken trees*



*Blowdown stand*



*Hanging tree*



*Broken stem of beech*



*Blowdown Group damage - Uprooted trees*



*Blowdown stand*

# Motor manual felling and partially mechanised felling

*Training in storm damaged stands*



*Cleaning of the stem after the separation from the stump*



*Securing the rootplate with a cable makes the work safer*



*The harvester holds the tree for safety reasons during the culling phase of wood in tension*



*The feller must always work out of the machine's riskzone*

# Mechanised felling

*Machine working in different stand conditions*



*Gripping blowdown trees requires particular efforts for the machines*



*Single direction work for this excavator in steep slope*



*Machines of large capacity are often necessary for harvesting in storm damaged stand*



*Example of full mechanized harvesting system in a broad-leaved stand*

# Extraction



*Clam-bunk-forwarder*



*Swing boom  
grapple  
skidder*



*Clam-bunk-forwarder*



*Cable skidder*



*Forwarder*



*Cable yarder  
(uphill  
skidding)*



*Cable yarder  
(downhill  
skidding)*



*Cable yarder on flat and  
sensitive terrain (poplar)*

# Conservation under O2 exclusion/Compact pile



*Putting in place the sheet : even ground*



*Putting in place the first layer of logs*



*Detail of the first layer*



*Cut off the sharp edges of logs to prevent piercing of the plastic sheet*



*Putting in place the top sheet in the opposite direction*



*Welding of the plastic sheets*



*Detail of the welding device*



*Detail of the O2-measuring device*



*Final external aspect*

# Water spraying conservation



*Short length storage*



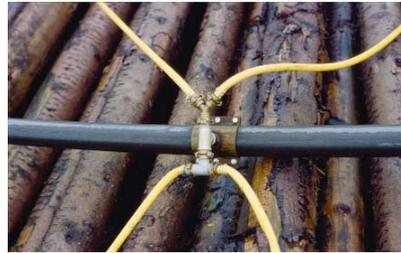
*Long length storage*



*Internal aspect of a water sprayed log*



*Water spraying of the top of the pile by pierced hosepipes*



*Detail of an adaptor*



*Fruit bodies of Armillaria*



*Detail of a sprinkler*

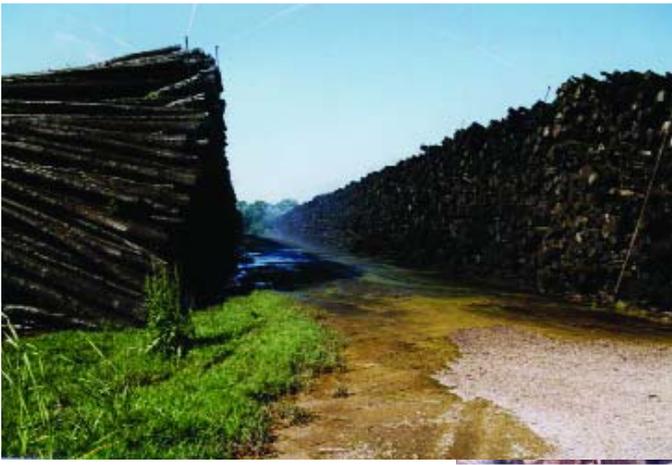


*Armillaria's rhizomorph*



*Peripheral discoloration of spruce following a period of wet conservation*

# Water spraying conservation



360° sprinklers



External aspect of the logs



Separation between two owners



Pond to collect water discharge



Detail of an adaptor



Implementation of the water system (pipes + filter wells)



Pilling in long length



Detail of hydraulic pumps



Ground covered with bark following the removing of the logs

# Other methods/Miscellaneous



Storage under drying conditions/covered crossed piles

External aspect of the logs stored under drying conditions



Blue staining



Dot

Pit aspiration of softwoods : during wet conservation, the membranes (torus) are deteriorated by bacteria. This phenomenon enhances fluid circulation but may involve treatment and finishing problems



Combination of methods : open crossed pile and chemical treatment



Storage under drying conditions : long length debarked logs



Conservation by immersion : ballasting of oak logs by hornbeam logs (density > 1) before filling up the pond



In situ conservation of beech