

Preservation Resource Center's "Welcome Home" Workshop
Thursday, December 15, 2005

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**Special thanks to this week's National Trust for Historic
Preservation volunteer damage assessment team.**

*The Preservation Resource Center was founded in 1974 as a membership organization to
promote the preservation, restoration, and revitalization of New Orleans historic architecture
and neighborhoods.*

Join PRC today! Ask a PRC staff person for more information. Memberships make great holiday gifts.



For more "Welcome Home" workshop information
call 504.581.7032 • visit www.prcno.org • visit www.preserveneworleans.com
• visit 923 Tchoupitoulas St. New Orleans, LA 70130 • Mon- Fri: 9 a.m.-5 p.m

HDLC

Historic Districts Landmarks Commission
830 Julia Street, New Orleans, LA 70113
Phone: 504-565-7440 Fax: 504-565-6269

Welcome home. The Historic District Landmarks Commission (HDLC) is ready to work with you to help rebuild our historic districts in a manner that will both maintain the historic integrity of the buildings as well as the property values of the neighborhood as a whole.

All work to the exterior of a building located within a local historic district must be reviewed and approved by the HDLC PRIOR to commencing work. Some of the most common repairs following a hurricane involve roofs, gutters, weatherboards, fencing and window repair. Below are some basic guidelines regarding these repairs to help guide your restoration.

Roof Repair

Repair of replacement shingles that match the existing roof shingles in type and color can be approved by the staff. Please fill out an "Emergency Roof" application and return it to the staff for approval.

Roof Replacement

The following roof brands and colors are approvable as replacements for most roofs within the historic districts. (Blue and purple rated buildings require further review) Please fill out an "Emergency Roof" application and return it to the staff for approval.

Architectural Grade Asphalt/Fiberglass Roof Shingles

GAF Timberline

Color: Slate, Charcoal, Pewter Grey, Weathered Wood

Elk Prestique

Color: Antique Slate, Sablewood, Weathered Wood

Owens Corning – Oakridge

Color: Estate Grey, Onyx, Driftwood, Quarry Grey

Certainteed-Grand Manor

Color: Gatehouse Slate, Colonial Slate, Stonegate Grey,
Black Pearl

Metal Roofs

Standing seam Metal

Galvanized or dark non-metallic colors

5-V Crimp Metal

Galvanized

Slate Alternatives

Ecostar, Amcraft, Royal, Authentic Roof, Lamarite-
Tamco

PLEASE NOTE:

All existing ridge tiles must be salvaged and reinstalled.

Wind turbines are NOT approved in historic districts. Ridge vents may NOT be installed if your building has existing ridge tiles
Chinese Cap Roof vents and low profile power vents in less visible locations can be approved by the staff.

Siding

The HDLC staff can approve the repair and replacement of wood weatherboards with HARDIPLANK siding. Please complete an "Emergency Repairs" application and return it to the staff for approval. The HDLC staff CANNOT approve the replacement of wood weatherboards with Vinyl or Aluminum siding. These applications must go before the commission for approval.

Doors & Windows

The HDLC staff can approve the repair and replacement of windows and doors that match the existing in material, profile, dimension and size. Please complete an "Emergency Repairs" application and return it to the staff for approval.

The replacement of existing wood windows and doors with metal or vinyl windows & doors is NOT approvable.

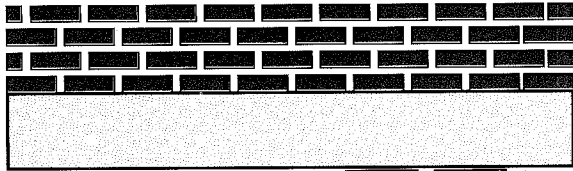
Fences

Repair or replacement of fences that match the existing fences in location, height, material, and design will be approved by the HDLC. Please complete an "Emergency Repairs" application and return it to the staff for approval.

Wood privacy fences must be capped and may not be installed in front of buildings.

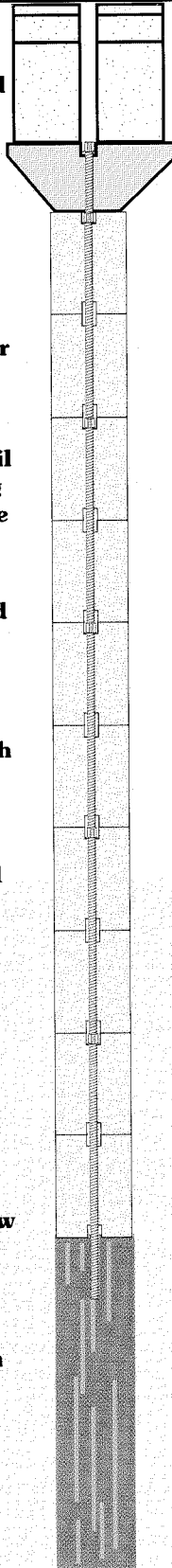
Vinyl and chain link fences are NOT allowed within historic districts.

The PermaLOCK™ System...engineering that is structurally dependable



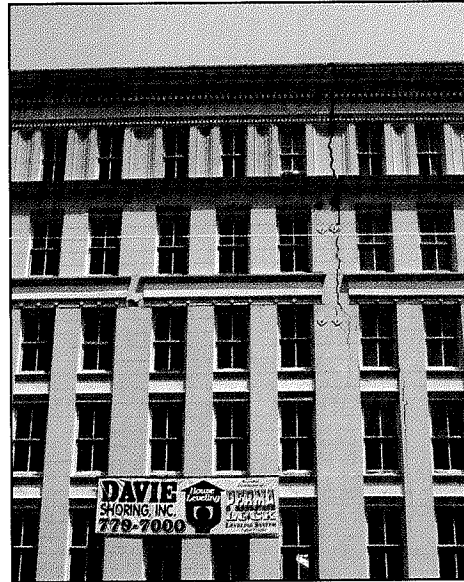
1. The PermaLOCK™ cylinders are designed to lock together, therefore ensuring that every cylinder is torqued and becomes one continuous concrete piling.
2. With the threading and locking of each PermaLOCK™ cylinder there is no lateral movement during or after installation due to expansive soils, soil consolidation, sloping sites, ground pressure or roots of trees
3. Straightness, true vertical alignment and concentric loading offered by PermaLOCK™ resist buckling of the supporting piles which can occur with other systems.
4. Each PermaLOCK™ block is threaded and locked solidly into place by turning with no need for a worker to monitor the cable to determine if tensioning is necessary.
5. It is recommended that pile lengths should be limited to 75 times their diameter.** In the New Orleans area, where depths over 50 feet are sometimes necessary, the PermaLOCK™ system satisfies this recommendation.

* "Practical Foundation Engineering Handbook" (McGrawHill Publishing 2000)



PermaLOCK™ offers a lifetime warranty for the life of the home using the strongest materials and the best engineering design. For the actual lifting we use a hydraulic unified lifting system that will cause the least amount of damage to your building.

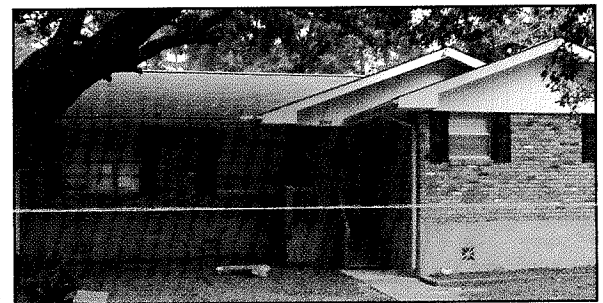
PermaLOCK™ is Effective on Large Commercial Projects as well as Your Most Prized Possession...Your Home.



We were contacted by the owner of an eight story hotel on Magazine Street in downtown New Orleans. He called Davie Shoring, Inc. in to address the serious foundation problems. There had been studies by engineering firms underway for almost a year but they had not come to any agreement on a safe, cost effective and lasting solution. We sat down with the General Contractor that was going to renovate the building, and three of the engineering firms. What we presented as a viable solution was the PermaLOCK™ System. Unanimously and nearly immediately everyone present recognized and approved the proper procedure offered by the PermaLOCK™ System. We

started and completed our work in a timely manner and the owner told me he can breathe a sigh of relief and a load has been taken off his mind. The other renovations can now continue.

This was an elevation project for FEMA. The house was jacked up three feet from its existing level using the PermaLOCK™ System. From start to finish it took one month including the solid block wall around the perimeter of the home and the stucco work and all the decks. The homeowner



was pleased that the project was finished in such a timely manner.



This also was an elevation project for FEMA and the house was raised approximately three feet. The customer was very satisfied and liked our finished product and the condition in which we left the house and the yard. The PermaLOCK™ System is the only safe system to use when a house must be

elevated more than six inches. The stability of the pile itself allows us to jack a house up to six feet with no concern for the house shifting as is the case with other methods.

82 West 27th Street
Kenner, Louisiana 70062

**DAVIE
SHORING, INC.**

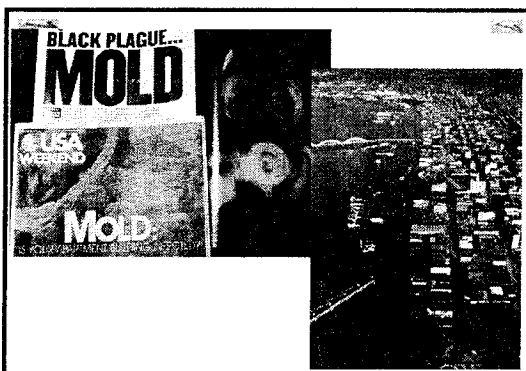
(504) 464-4712

Flood and Moisture Mitigation - Protecting the Structure from Fungi and Other Pests

By Jeff Lloyd
for
New Orleans Preservation Society
December 2005

Topics

1. Why you should be interested
2. Fungi in Buildings & Their Requirements
3. Health Effects of Fungal Growth
4. Water in Buildings & Flood Mitigation
5. Treatment
6. Conclusions



Why You Should be Interested

- Protect you home and family
- Protect your community, history and heritage.
- Understand the problem but do not be afraid of it.
- Make an informed choice of what you do and what services you may choose to buy.

What are Fungi?

- Living organisms
- Grow like plants but eat like animals
- Typically saprophytic but can be parasitic or pathogenic
- Very useful and important (normally), but is a Pest when it grows in our homes
- Achlorophyllous, cellulose containing organism & normally filamentous

Fungal Taxonomy

- MYXOMYCOTA
 - The slime molds
- EUMYCOTA
 - Mastigomycotina (motile zoospores)
 - Zygomycotina (sexual zygosporangium)
 - Ascomycotina (sexual ascospores in ascus)
 - Deuteromycotina (no sexual stage ~ Ascomycotina)
 - Basidiomycotina (sexual basidiospore on a basidium on a conspicuous fruiting body)

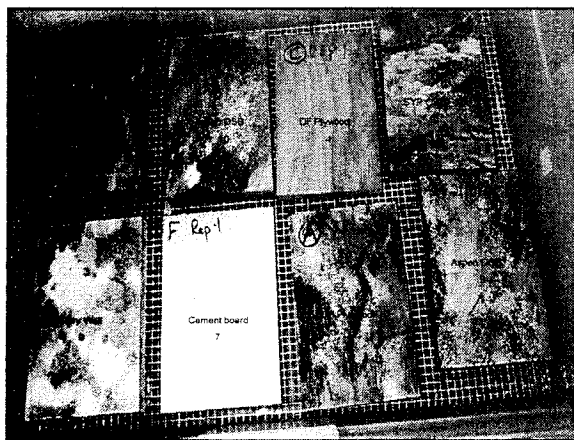
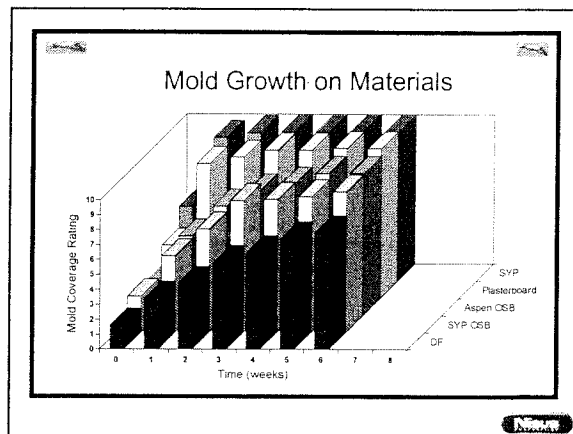
Mold & Fungi in Buildings

- Mold Fungi
 - Fungi with colored mycelium and or spores that grow on surfaces. They use free sugars and carbohydrates as a food source and do not affect structural integrity.
- Stain Fungi
 - Fungi with colored mycelium that grow in materials, typically wood. They use free sugars and carbohydrates as a food source and do not affect structural integrity.
- Decay Fungi
 - Fungi that grow within materials, typically wood and use the structural components (cellulose) as a food source. This results in the destruction of wood (Rot).

Decay, Stain and Mold

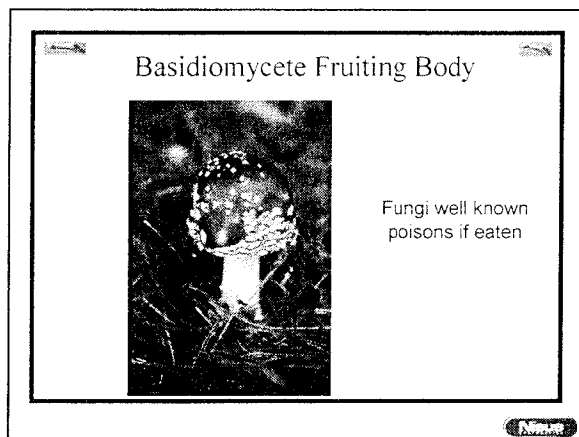
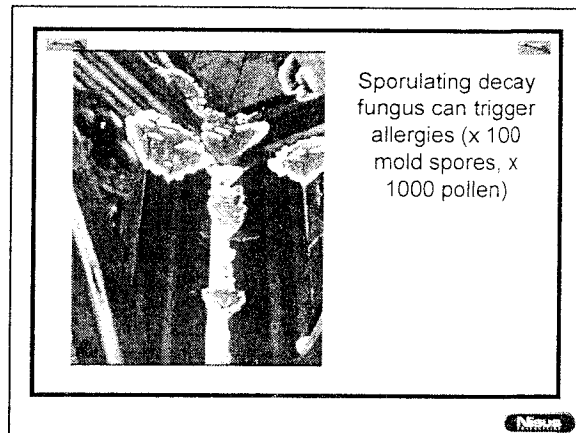
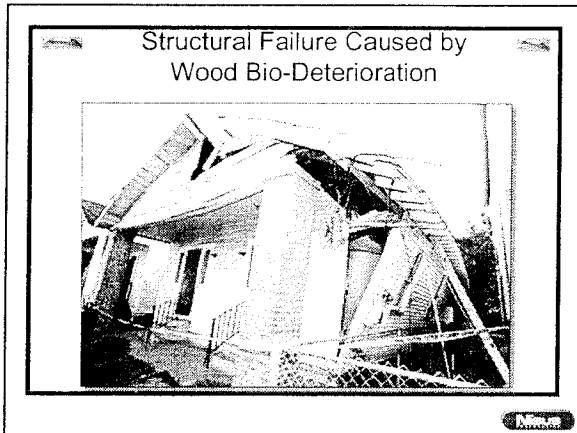
Materials in homes will be attacked by mold, stain, and/or decay fungi if:

- It is wet enough
 - wood MC > 20% and/or RH > 80%
- Carbohydrates are available
 - no inhibitory preservatives or extractives
- Viable fungal spores or mycelia are present
- Oxygen is present
- Temperature is appropriate

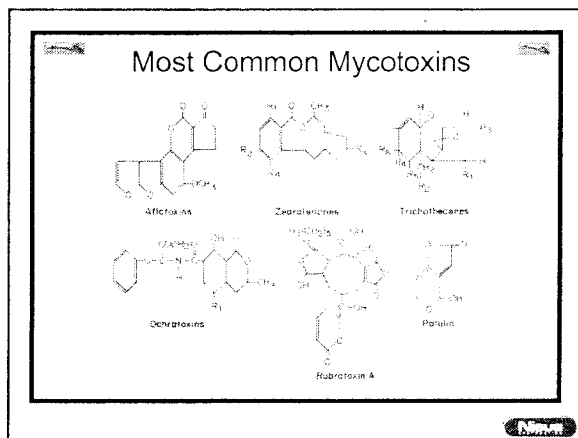


Health Effects of Fungal Growth

- Structural failure
- Allergies associated to air borne spores
 - 7000 or more spores for ever cubic yard of air space
 - Hay fever type symptoms, Asthma & Eczema
 - Chronic sinus infections
 - Respiratory infections
 - other allergic responses including Death
- Parasitic or Pathogenic Growth
- Exposure to mycotoxins (ingestion most likely)
 - Inflammation to stomach, nose, throat & lungs
 - Pulmonary hemosiderosis (bleeding lung disease)
 - Liver damage
 - Cancer & Death





- ### Most Common Mycotoxins
- **Aflatoxins** *Aspergillus* especially *flavus* group
 - Liver function and carcinogenicity LD 50 ~0.3 mg/kg.
 - **Zearalenones** *Fusarium* spp.
 - Oestrogenic
 - **Trichothecenes** *Fusarium* spp., *Trichoderma* spp. and *Stachybotrys* spp.
 - Sores, hemorrhage, protein synthesis, membrane function and bone marrow activity.
 - **Ochratoxins** *P. viridicatum* and *A. ochraceus*
 - Hemorrhage, Liver and kidney damage.
 - **Rubratoxin A** *P. rubrum*
 - Hemorrhage, Liver, kidney and CNS damage
 - **Patulin** *P. expansum*
 - Pulmonary oedema and hemorrhage
- Most commonly produced on stored food products



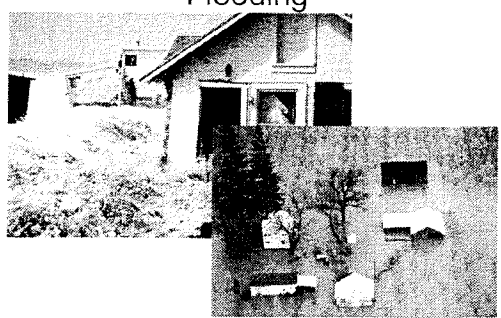

- ### Water in Buildings
- Rising Damp
 - Penetrating Damp
 - Condensation

Penetrating Damp


- Standing water from flooding
- Standing water from rains or structural leaks
- Broken or leaking water pipes

Flooding





Cleaning and Preparing the Structure After Flooding




Government Resources

- CDC
 - Flood and Safety Fact Sheet
 - After a Hurricane or Flood: Cleanup of Flood Water
 - Protect yourself from Mold
 - Reentering your Flooded Home
- FEMA and Red Cross
 - Repairing your flooded home
- EPA
 - Flood Cleanup: Avoiding IAQ Problems



Flood Remediation

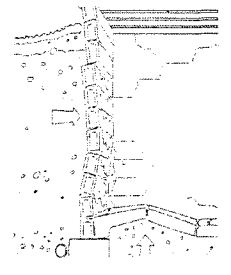

- Ensure building is structurally sound and safe, make repairs to ensure the structure is weather proof.
- Pump out remaining water if necessary (carefully).
- Decontaminate suspected or proven sewage contamination with an EPA labeled disinfectant sanitizer and viricide (not bleach).
- Determine level of Flooding/water intrusion using moisture meter and ensure structure can dry properly (dispose of damaged materials such as sheet rock and open to dry). Clean or remove visibly molded surfaces.
- Treat all structural wood components with an epa registered preservative that will kill and prevent decay fungi, wood destroying insects and mold.
- Only finish/close the structure after wood moisture content less than 20 % M/C



Draining Basements

- Don't drain too quickly or the walls could collapse
- Hydraulic pressure is equal on both sides of walls

- 1) Pump water out after floodwaters recede
- 2) Pump out 2-3 feet of water and WAIT 1 day
- 3) If the water level rises overnight, then wait one day and repeat step two
- 4) When the water level does not increase overnight, remove another 2-3 feet of water and wait overnight.
- 5) Repeat as before until all water is removed

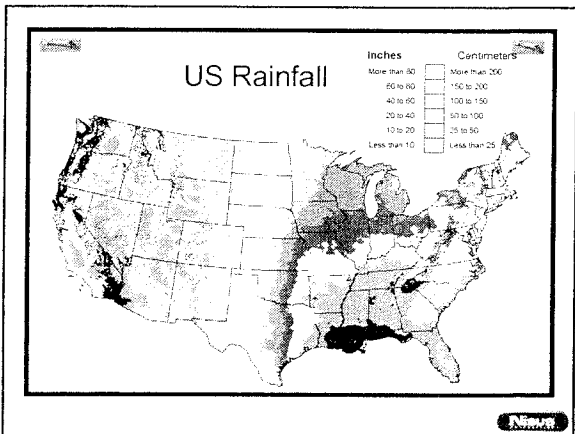
Moisture & Humidity Meters

Two types of moisture and humidity meters are shown. The first is a handheld digital meter with a screen and buttons. The second is a larger, more complex digital meter with a probe attached to its top.

More Common Moisture Problems

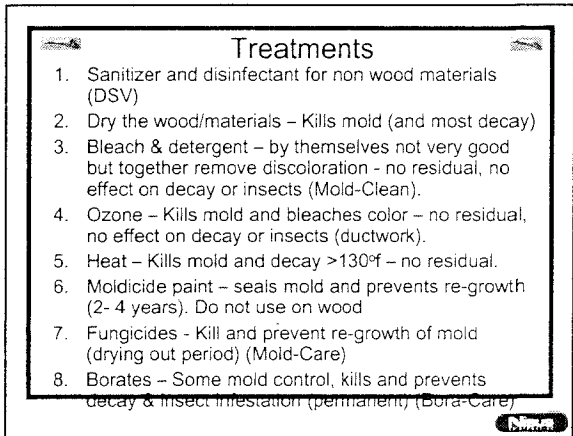
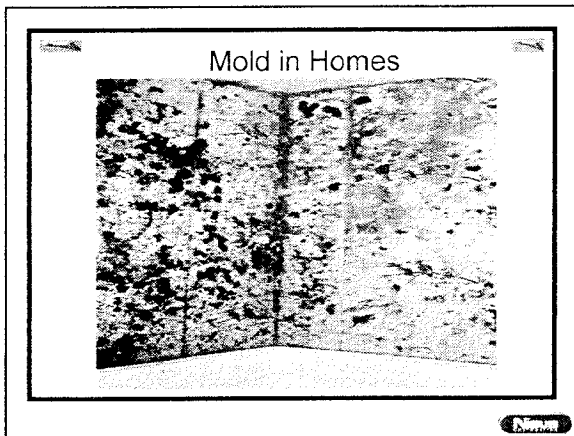
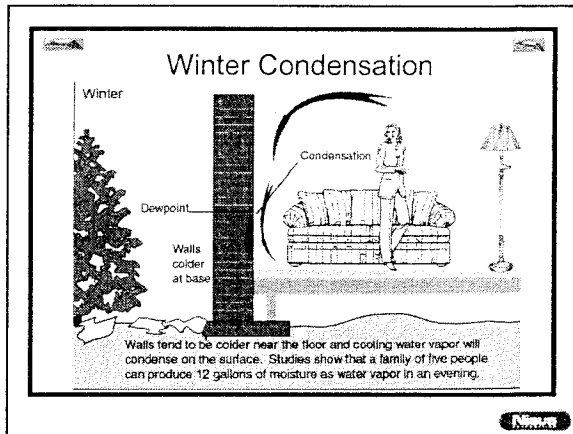
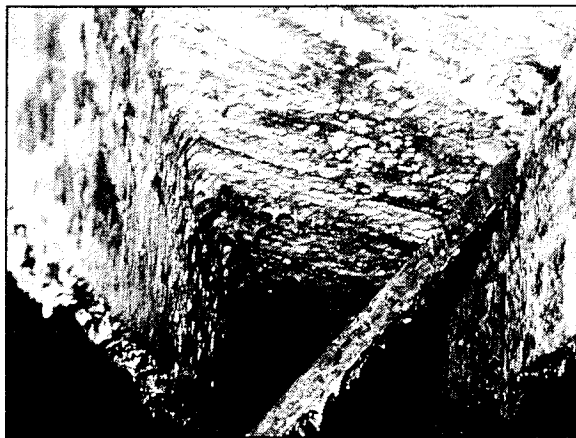
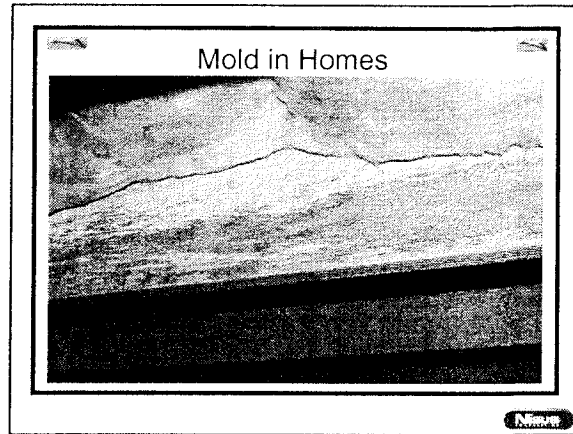
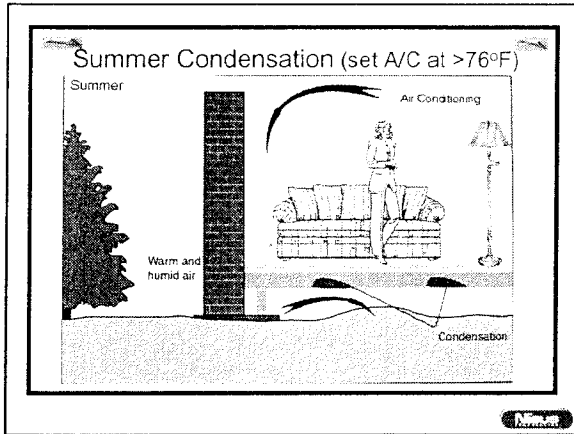
Water in Buildings

- Approximately 5 tons of Water in every new Home – takes 6 months to dry with appropriate ventilation
- Weather Issues



Weather Issues

Weather Issues – New Construction



Bora-Care with Mold-Care Controls all Wood Destroying Pests and Mold

Powder Post Beetles Flat Headed Borers Old House Borers Termites

Drywood Termites Dampwood Termites Carpenter Ants Fungi

Conclusions

1. Water is Enemy No. 1- The first and best solution is to keep out and removing water.
2. In a flooded situation consider whether disinfection is needed (DSV)
3. Almost all construction materials can support Mold and Fungal growth.
4. All fungi are a concern, but no need to be scared.
5. Mold testing and identification of limited value, moisture meter is most useful tool.
6. Wet enough for mold, wet enough for decay and initiation of insect infestation - mold is a simple indicator of more problems to come.
5. Remove mold or moldy materials - Mold-Clean™
6. Control mold & wood destroying organisms - Bora-Care® with Mold-Care™

What does DSV do?

Kills Pathogenic bacteria and viruses

- Disinfectant
- Cleaner
- Sanitizer
- Virucide
- Deodorizer

Professional Concentrate 2oz per gallon

Mold-Clean

Bora-Care with Mold-Care

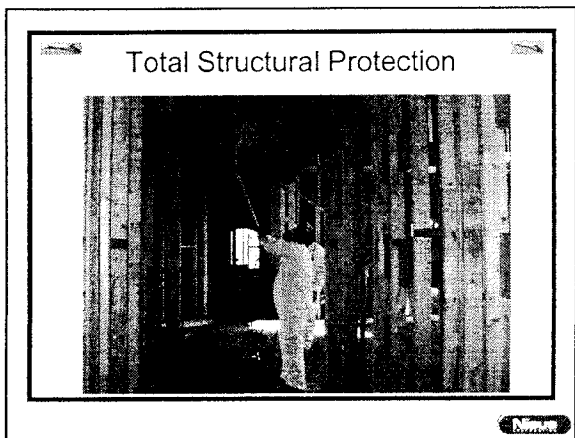
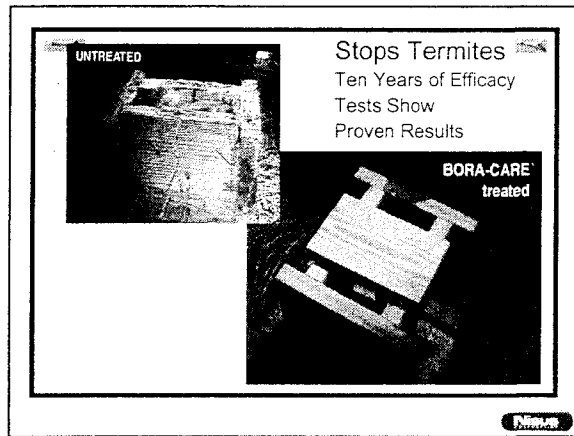
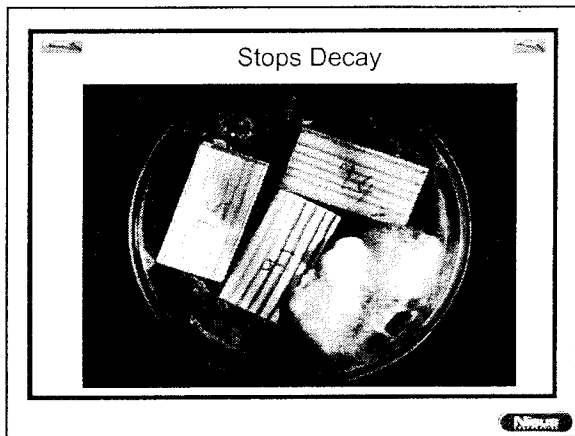
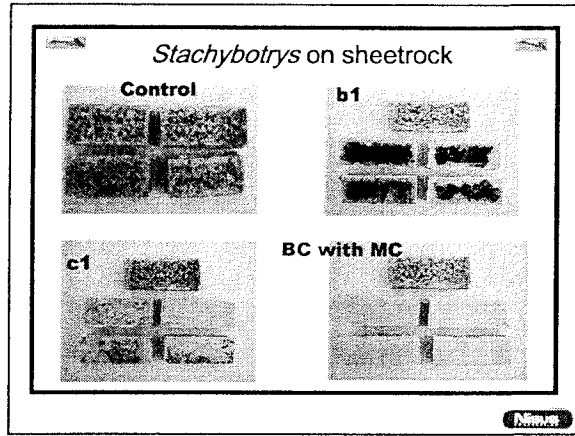
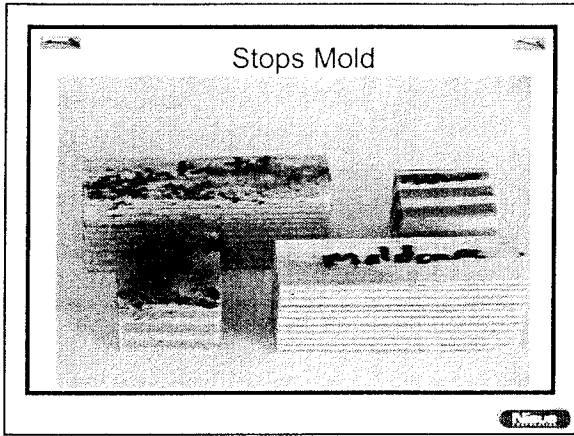
Bora-Care

Borate technology using maximum solubility and high surface loading. 60 year performance of active.

Combined for ultimate performance with:

Mold-Care

Joint sanitizer and disinfectant technology with 10 years experience in mold mildew and sap-stain prevention.



Structural Protection of Water Damaged/Flooded Homes A Guide for Homeowners

1. **For more information on this topic, read the following Government Guidelines and Recommendations: FEMA 'What Should I do After a Flood', CDC 'Flood Safety Fact Sheet', EPA Fact Sheet 'Flood Clean Up', American Red Cross and FEMA 'Repairing Your Flooded Home'.**
2. **Hire a locally licensed and insured pest control operator.** A licensed and insured pest control operator (PCO) will have training and certification approved by your state and will use EPA registered products.
3. **If your home has not been flooded:** The moisture content (%MC) of wood in all walls, in subfloors and roofs needs to be checked. A PCO will use a specialized piece of equipment called a moisture meter to measure the moisture content of structural materials. The moisture content in a dry home will be less than 20%. If the moisture content is above 25%, follow the recommendations for flooded homes below. If the wood is above 20% MC, immediately dry home until the wood is less than 20% MC using dehumidification or dry heat and ventilation. Consider hiring a local PCO to treat your home with a termiticide to give you long-term structural protection of your home.
4. **If home has been flooded:** Remove all water, mud, silt, and wet or damaged non-structural debris (carpet, furniture, curtains, garbage, etc.) from all flooded areas. Pressure wash and pump out if necessary.
5. All sheet rock and insulation should be removed to a height of three feet above the flooded area or to a height of three feet above a 25% moisture content reading, whichever is highest. **Removal of materials can disrupt potentially harmful materials and be made airborne. Proper protective equipment may be necessary.**
6. Clean and/or remove all visible debris and mold on all structural wood.
7. If there is evidence of visible sewage or if laboratory tests shows bacterial contamination, consider hiring a professional to thoroughly clean and disinfect with an appropriate EPA registered disinfectant, sanitizer and virucide.
8. Obvious signs of rot or termites must be repaired and should be treated by a local PCO. A PCO can treat all structural components with an EPA registered and labeled wood preservative (to prevent wood rot, termites and carpenter ants). The wood should be dried to less than 20% wood moisture content within 48 hours using dehumidification or dry heat and ventilation. If immediate drying is not possible, a PCO can add an EPA registered and labeled moldicide and mildewcide to a wood preservative treatment.
9. When the home is repaired and dry (weatherproof roof and exterior walls) and the wood moisture content remains below 20%, replacement of the insulation and sheetrock may be carried out, and the homeowners may return.
10. Consider a professional pest control annual or biannual inspection to maintain the structural integrity of your home.

Note: Only EPA registered pesticides (disinfectants, wood preservatives and moldicides/mildewcides) can be used, and only properly licensed, trained and insured pest control professionals can be used for any such pesticide application in homes.