KEY POINTS IN THE CERTIFIED GREEN DEALER™ VIDEO MODULE "MOLD"

1. **Why Mold Matters in Green Building**
2. **Why Mold Grows on Lumber and Lumber Products**
3. **Proper Storage and Inspection of Lumber and Wood Products**
4. **Controlling Moisture Inside a Home**
5. **Treating Mold on Lumber**
6. **Products to Reduce Mold Growth**

1. Why Mold Matters in Green Building

- Mold prevention is a focus of green building because mold can compromise indoor air quality.
- Mold can become so pervasive that a building could have to be torn down or even partially demolished and replaced.
- Financial liability for mold damage can also affect lumber dealers, in addition to builders and contractors.
- Billions of dollars are spent each year because of water intrusion and mold-related problems.
- Studies say 40% of indoor air quality problems in U.S. buildings may come from mold and bacteria. Individuals who are allergic to mold face significant issues in homes with mold growth.
- Molds on the surface of wood and related products discolor the surface with pigmented spores, and decay fungi on wood reduce its structural strength.

2. Why Mold Grows on Lumber and Lumber Products

Mold needs a suitable temperature, oxygen, food, and moisture to grow. Eliminating one of these elements can prevent mold or fungi growth.

- Wood and wood products contain sugars and starches that fungi feed upon.
- As unseasoned framing lumber dries, surface moisture appears, which can encourage mold growth.
- When the moisture content of wood is reduced to below 20%, mold growth can no longer be supported.
- Depending on conditions, lumber used in construction will typically dry to below 20% moisture content before the structure is enclosed. Prior mold growth, while not actively growing, may still be visible.

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– Drying lumber reduces the likelihood of mold formation, but it does not guarantee the wood will *remain* free of mold.
– Lumber that gets wet from rainfall or condensation after it has been dried will support mold growth.

3. Storing Lumber and Wood Products

– Food for mold exists in wood and the paper face on drywall. The easiest way to prevent mold is to keep drywall and wood products dry.
– Wood and drywall should be covered in the yard, shipped dry, delivered dry, and covered on site. Wood and drywall should be delivered only as needed.
– Moisture can actually come from wood itself and may appear on unseasoned framing lumber as it dries.

  Even "dry" lumber contains some moisture.

  Wet pieces inside wrapped bundles could support mold growth.

  Example: Exposing a lumber bundle to direct sunlight could heat the lumber and the resulting evaporating moisture could be trapped in the wrapping to support mold growth.
– Lumber will dry to below 20% moisture content on its own, but covering the material with plastic during that time can act as a tent to keep water from fully evaporating. Watch for any condensation that may appear on the underside of a cover.
– If wood gets wet during construction, it must be dried out before gypsum board is installed. A moisture meter should be used to check moisture content.

  ***Note:* A rule of thumb for most wood species is that the moisture content should be below 19% or 20% before it is enclosed. In humid or rainy climates, mechanical drying may be needed on site to reduce moisture in the wood, concrete slab, and gypsum board. In hot weather, mechanical dehumidifiers can be used; in cooler weather, desiccant dehumidifiers should be used. Air movers help distribute air throughout buildings and provide drying across the surfaces of materials. In extreme circumstances, temporarily enclosing wet areas will reduce drying time and increase effectiveness.**
– All wood and wood products should be inspected before they leave the yard.

4. Controlling Moisture Inside a Home

– Moisture in a home comes from outside sources such as rain, floods, and groundwater penetrating through a poorly sealed building envelope. Common construction defects include leaks from improper sealing of windows, walls, doors, hose bibs, air conditioning line sets, and plumbing and electrical access point.

- Breathable water resistant barriers and proper flashings at walls, windows, doors, and the roof prevent moisture intrusion.
- Foundations, basements, and crawl spaces can also introduce bring moisture to a home due to poor site drainage or improper foundation waterproofing.
- Moisture also comes from indoor sources such as humidifiers, inadequate bathroom and kitchen exhaust, and clothes dryers vented into the house.
- By controlling relative humidity and water intrusion, degraded air quality from mold, bacteria, and dust mites can be minimized.
- According to Cahners Residential Group (2000, 2001), more than 66% of new-home buyers would spend $2,500 to $5,000 for features that enhance indoor air quality, energy efficiency, and resource conservation.

5. Treating Mold on Lumber

- Most "lumberyard" mold are fungi that discolor the surface of wood with green, white, pink, orange, black or other colored spores. This mold growth and discoloration is usually confined to the wood surface.
- Stain fungi discolor wood more deeply and are not as easily removed. These fungi cause a darkening stain that occurs as they grow deeper into the wood, known as "blue stain."
- When wood is constantly exposed to water, wood decay fungi can attack the wood fiber, compromising wood strength.

  Treatment of mold on wood in the yard or at a job site depends on the amount of mold, the type, and the likelihood of its disturbance.

  Appropriate remediation methods range from surface cleaning to sanding to media blasting, which removes the growth and a thin layer of wood. Proper mold remediation should not disperse mold spores into the air; and must safeguard individuals doing the work, and protect the environment from contamination.
- Pigmented mold spores on the surface of wood or wood products should be cleaned by wet wiping or wet vacuuming the surface, then scrubbing with water and detergent. Products should be dried and the surface vacuumed with a HEPA filter. Gloves, eye protection, and a NIOSH-approved respirator may be needed by personnel that are cleaning the materials.
- Stain fungi do not pose an air quality problem and are less likely to affect wood's structural integrity. These fungi do not require removal.
- Lumber with decay fungi should not be distributed or used in construction.

  When heavy amounts of mold growth exist on a large number of lumber pieces or wood products, or if the mold originated from leaks into the building cavity, professional remediation and restoration services are required.

Note: ***Using bleach on moldy surfaces will not remove mold spores. If mold and bacterial growth resulted from black- or contaminated floodwater, an EPA-registered disinfectant must be used.***

Reminder: ***Lumber dealers should have a written mold and moisture control plan for storage of wood products, quality control inspection procedures, mold detection and remediation practices, and guidelines on when to seek expert advice.***

Plans should also address what to do when moldy lumber is mistakenly distributed to customers.

A disciplined inspection process can actually lower dealer liability.

6. Products that can Reduce Mold Growth

Paper surfaces on drywall are very easy for mold to digest.

Paperless drywall systems use a dense, moisture-resistant gypsum core and fiberglass mats to replace paper faces on both sides of the drywall panel to deprive mold of a food source.