Use Moisture Meters to Determine When Structures are Dried Out and Ready for Rebuilding

Nebraska Extension is pleased to have moisture meters available for homeowners to *borrow* from local Extension offices as they monitor structures for moisture levels prior to rebuilding. The moisture level of structures cannot be determined by appearance or time spent drying. A calibrated moisture meter is recommended to measure the moisture content of flooded materials.

Before drywall, paneling or other coverings are installed, wood should have a moisture content of less than 15 percent— less than 13 percent provides a margin for testing error. Homeowners are cautioned to ensure that their home is dry enough to rebuild. It's common for homeowners to discover large amounts of mold in walls months after a flood because they didn't wait for the structure to dry out before rebuilding.

Take readings with a pin type meter at various locations in both the middle and edges of wood studs, bottom plates, wall sheathing and subflooring. Note that treated woods (bottom plates) can produce false readings on some meters.

Note that a flooded concrete slab readily absorbs water. A wet slab can lead to flooring failure and rewetting of wood framing. The pin type moisture meter will only measure the *surface* moisture of concrete.

For severe flooding, homeowners might want to have a building inspector or a professional, trustworthy contractor inspect the structure before rebuilding.

See reverse for additional information and resources.

Using the MM1E – Pin-type LED Bar Graph Moisture Meter

- To calibrate the MM1E moisture meter remove the protective cap and place the two holes on the cap on the meter. The meter is calibrated to 19-23%.
- Switch between the low and high settings to measure moisture levels ranging between 7-35%.
- The Wood Moisture Equivalent meter readings are:
  - Low 7-15%
  - High 16-35%
- To check flood damaged structure, turn the meter on to the low or high setting and measure the readings. If the reading is at the top of low scale or at the bottom of the high scale; switch scales to ensure you have an accurate reading.
- Take readings at various locations in both the middle and edges of wood studs, bottom plates, wall sheathing and subflooring. Note that treated woods (typically wall bottom plates) can produce false readings.
- This meter will only measure the surface moisture of concrete materials. See above for additional information.
- For further information on using this meter view the following YouTube videos:

https://go.unl.edu/moisturemeter
https://go.unl.edu/moisturemeter2

Homeowners: Make sure house is dried out before repairing

Homeowners wanting to repair their flood-damaged home should wait until the wood and other materials dry out enough so they don't cause more problems later, such as mold. Renovating too soon could trap moisture in wood, leading to rotting and promoting growth of mold. It may take weeks to dry out a house to the point where repairs can be made.

Submerged wood can absorb a large amount of water. If enough moisture is trapped in the wood, mold is likely to grow behind walls and may cause serious health problems in the near or long term for people who live in the house.

Homeowners are cautioned to ensure that their home is dry enough to rebuild. It's common for homeowners to discover large amounts of mold in walls months after a flood because they didn't wait for the wooden studs in the wall to dry out before remodeling.

Installing insulation and wall board before the studs are dry traps moisture in the wall. Adding the insulation and wall board feeds mold growth, which often occurs months down the road from the flood.

Homeowners starting a repair project should remove wall and floor coverings exposed to floodwaters. That includes drywall, insulation, carpeting and possibly linoleum paneling or the subflooring.

Fans and dehumidifiers can help ventilate wet material and remove moisture from the air.

Before drywall, paneling or other coverings are installed, wood should have a moisture content of less than 15 percent—Less than 13 percent provides a margin for testing error.

For severe flooding, homeowners might want to have a building inspector or a professional, trustworthy contractor inspect the wood before rebuilding.

Also review, Dry Out Before Rebuilding, Texas A&M AgriLife Extension, at https://flood.unl.edu

The following website has additional information regarding drying out structures, using moisture meters and issues regarding mold.

https://www.ag.ndsu.edu/flood/home/after-the-flood%28old%29/moisture-and-mold

Sources:

- Homeowners: Make sure house is dried out before repairing, Purdue University
- Dry Out Before Rebuilding, Texas A&M AgriLife Extension
- FAQs – After Gutting a Flooded Home, LSU College of Agriculture