

A Comparison of U.S. Home Builder and New-home Homeowner Perceptions and Concerns about Mold

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Overview

Although it is uncommon in most homes, toxic mold (*Stachybotrys chartarum* or *Stachybotrys atra*), also known as black mold, has become a major health issue for homebuilders and home owners in the United States.

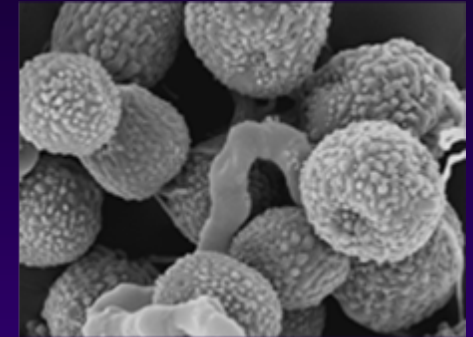
A number of lawsuits have been filed against wood products manufacturers and builders claiming that human health has been compromised by exposure to mold.

In this presentation we compare U.S. home builders and new-home homeowners perceptions about mold.



Mold

Mold and mildew are microscopic fungi, a low form of plant life that lives off of organic matter rather than a photosynthetic process.



Mold spores are always present in outdoor and indoor air, and almost all organic building surfaces can provide nutrients to support growth.

It may grow equally well on inorganic materials such as concrete, glass or plastics that may have nutrients on the surface (Robbins and Morrell 2003).



Mold

The incidence and development of mold and mildew depend heavily on moisture conditions and temperature.

A warm, wet or humid environment provides ideal conditions for the development of mold and mildew on a variety of surfaces, including wood.

In order to grow, molds require food, suitable temperature (ideally between 70 and 85 degrees Fahrenheit), oxygen and moisture (Zabel and Morrell 1992).

Toxic Mold

Mold in and of itself is not so big of a problem. However, toxic mold (*Stachybotrys chartarum* or *Stachybotrys atra*), also known as black mold, is a major problem.

The term toxic mold is used because under certain condition, they can produce mycotoxins, which are compounds produced by fungi that are toxic to humans or animals.

These molds can cause a significant negative economic and health impacts if found in structures and dwellings (Ceigler 1980).



Heavy growth of *Stachybotrys chartarum* and some other fungi on sheetrock in a flooded school basement. This growth occurred within several weeks after the flood.

http://www.startremodeling.com/mold_pictures.htm



Aspergillus Mold



Penicillium Mold

http://www.startremodeling.com/mold_pictures.htm



Green Mold



Black Mold

<http://www.inspect-ny.com/sickhouse/mold.htm>



Moldy Duct Work



Moldy Ceiling

http://www.startremodeling.com/mold_pictures.htm

MOISTURE

Control is the Key to Mold Control



Mold growing on the surface of a unit ventilator.

Mold growing on a wooden headboard in a room with high humidity.



Mold can occur naturally on wood under certain conditions, normally due to the presence of moisture in or on the wood, and warm temperatures.

Surface molds, which can come from a variety of sources including airborne spores, feed off the sugars and starches readily available in wood (Smulski 1990, Smulski 1993, Southern Pine Council 2002).



The Study

The sample frames for the study were:

- 1) The top 500 home builders in the United States by 2001 sales
 - 2) A national random sample of 1,500 new-home homeowners
- The source of sample frame information is U.S. census data purchased from Best Lists, a national survey list company.
 - The method of data collection was a mail survey questionnaire.
 - Survey procedures, follow up efforts and data analysis were conducted in accordance with Tailored Design Method (Dillman 2000)

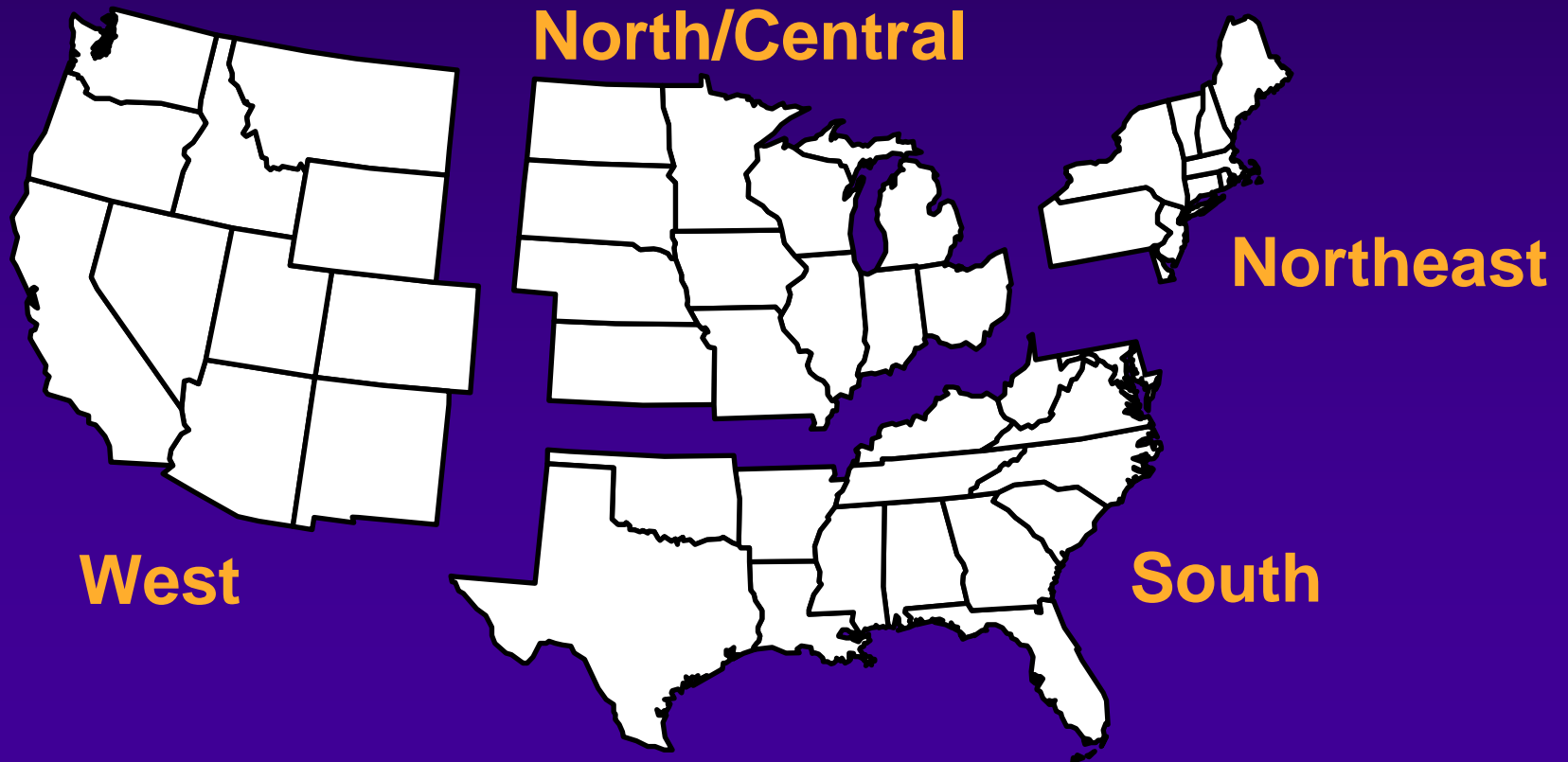
Results-Response Rate

Of the 2,000 surveys mailed, 157 were undeliverable, inappropriate or unusable.

Of the adjusted sample size (1,843), 216 useable surveys were returned (65 home builders and 151 homeowners) for an adjusted response rate of 12 percent.

Respondent Geographic Regions

	Home Builders	New-Home Homeowners
West	23%	53%
North Central	41%	15%
Northeast	12%	5%
South	25%	27%



Buildings Materials Protection Against Mold (percent of respondents that strongly agreed)

Building Materials (Ranked)	Home Builders	Home- owners
Steel	38%	35%
Aluminum*	33%	23%
Plastic*	29%	18%
Concrete*	22%	11%
Treated Wood	11%	16%
Untreated Wood	2%	2%

* Significant differences between respondent groups at 0.05 level of significance

General Perceptions about Mold (mean responses)

Scale: 1= strongly disagree; 2=somewhat disagree; 3=neither disagree nor agree; 4=somewhat agree; 5= strongly agree

	Home Builders	Homeowners
I Understand How Mold Forms in New Construction*	3.1	2.5
With Proper Construction Methods Mold is Preventable in New Home Construction	3.7	3.5
Mold is an Issue Builders/Owners in My Market Area/Neighborhood*	3.0	2.2
Mold is a Problem in the Home(s) I Build/Own/Sell	1.9	1.7

* Significant differences between respondent groups at 0.05 level of significance

General Perceptions about Mold (mean responses)

Scale: 1= strongly disagree; 2=somewhat disagree; 3=neither disagree nor agree; 4=somewhat agree; 5= strongly agree

	Home Builders	Homeowners
Treated Wood Can Prevent Mold in Indoor Applications*	2.9	3.2
Mold Can Only Grow on Wood	1.9	1.9
I Trust Treated Wood Claims Made by Wood Product Suppliers Concerning Mold	2.8	2.7
I Trust Claims Made by Environmental Groups Concerning Mold*	2.0	2.9

* Significant differences between respondent groups at 0.05 level of significance

Concerns about Mold (percent of respondents indicating concern)

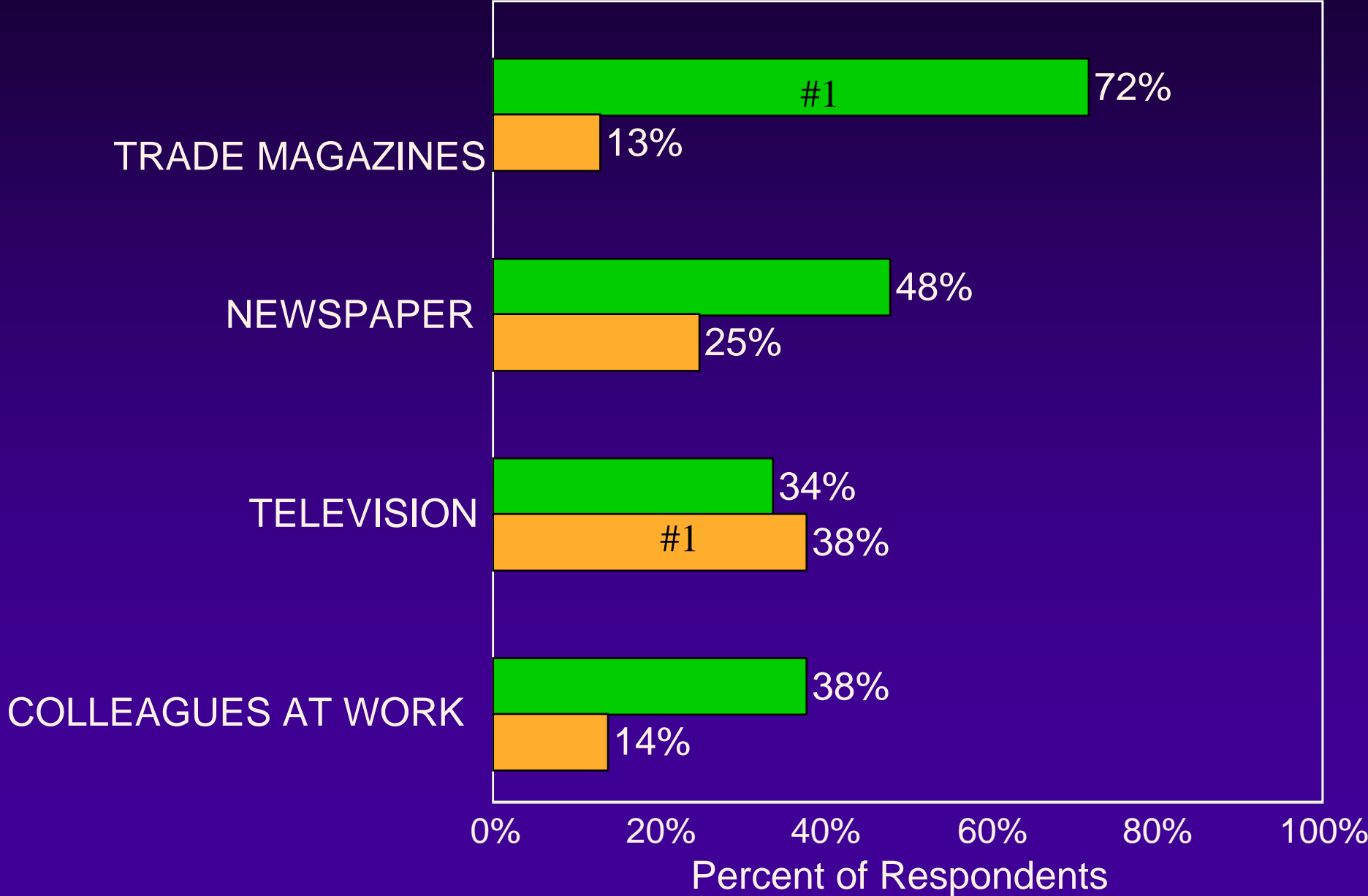
	Home Builders	Homeowners
Health Issues for Homeowners*	68%	24%
Liability/Chance of Being Sued *	79%	8%
Cost to Prevent Mold*	40%	17%
Health Risks from Mold are Unknown*	43%	32%
Effects of Long-Term Exposure to Mold are not Known*	43%	17%
Long-Term Resistance of Home to Mold*	43%	18%

* Significant differences between respondent groups at 0.05 level of significance

Homeowners have a lower level of concern

How Opinions Were Formed Regarding Mold (multiple responses possible)

■ Home Builders ■ New-Home Homeowners

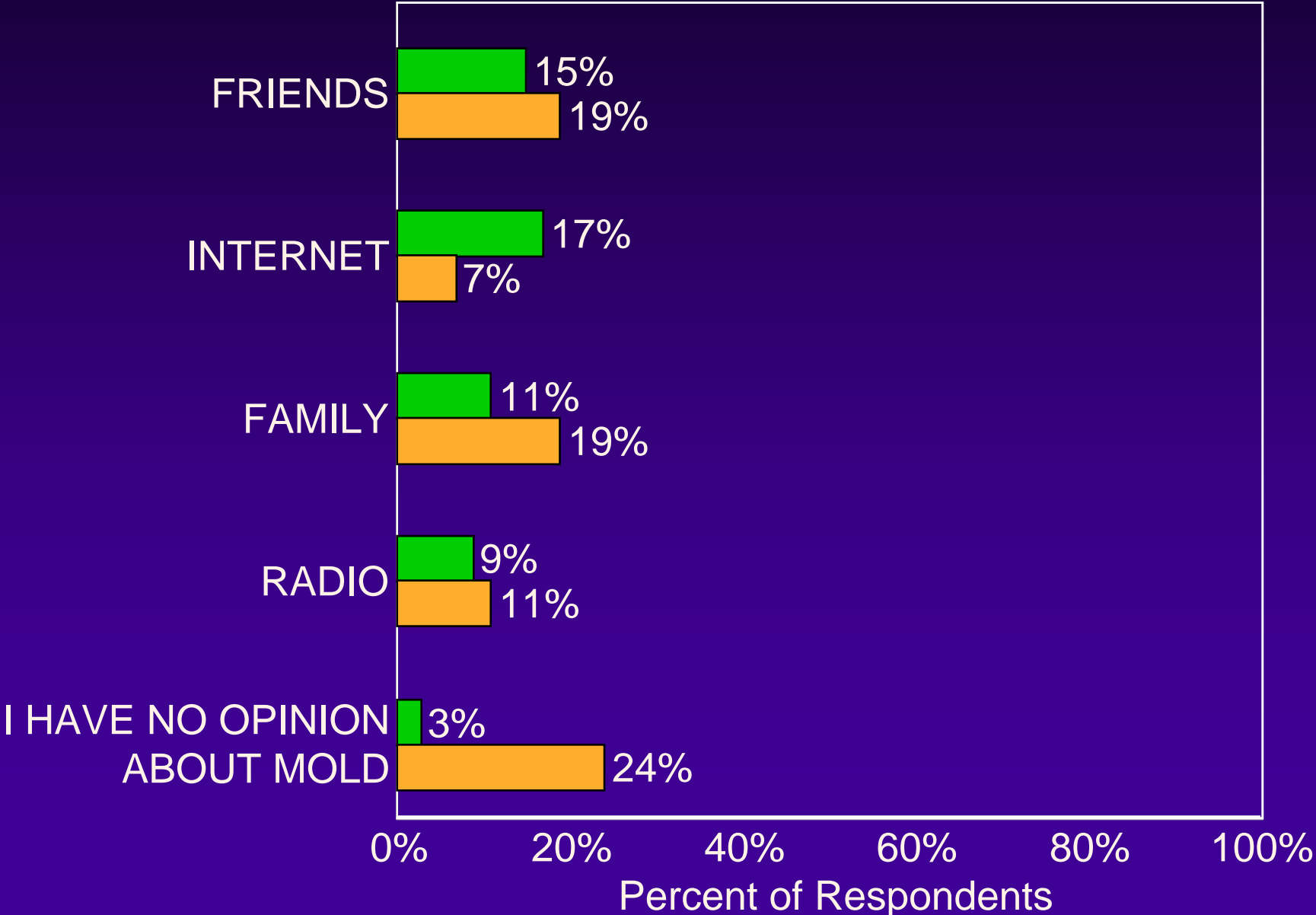


How Opinions Were Formed Regarding Mold

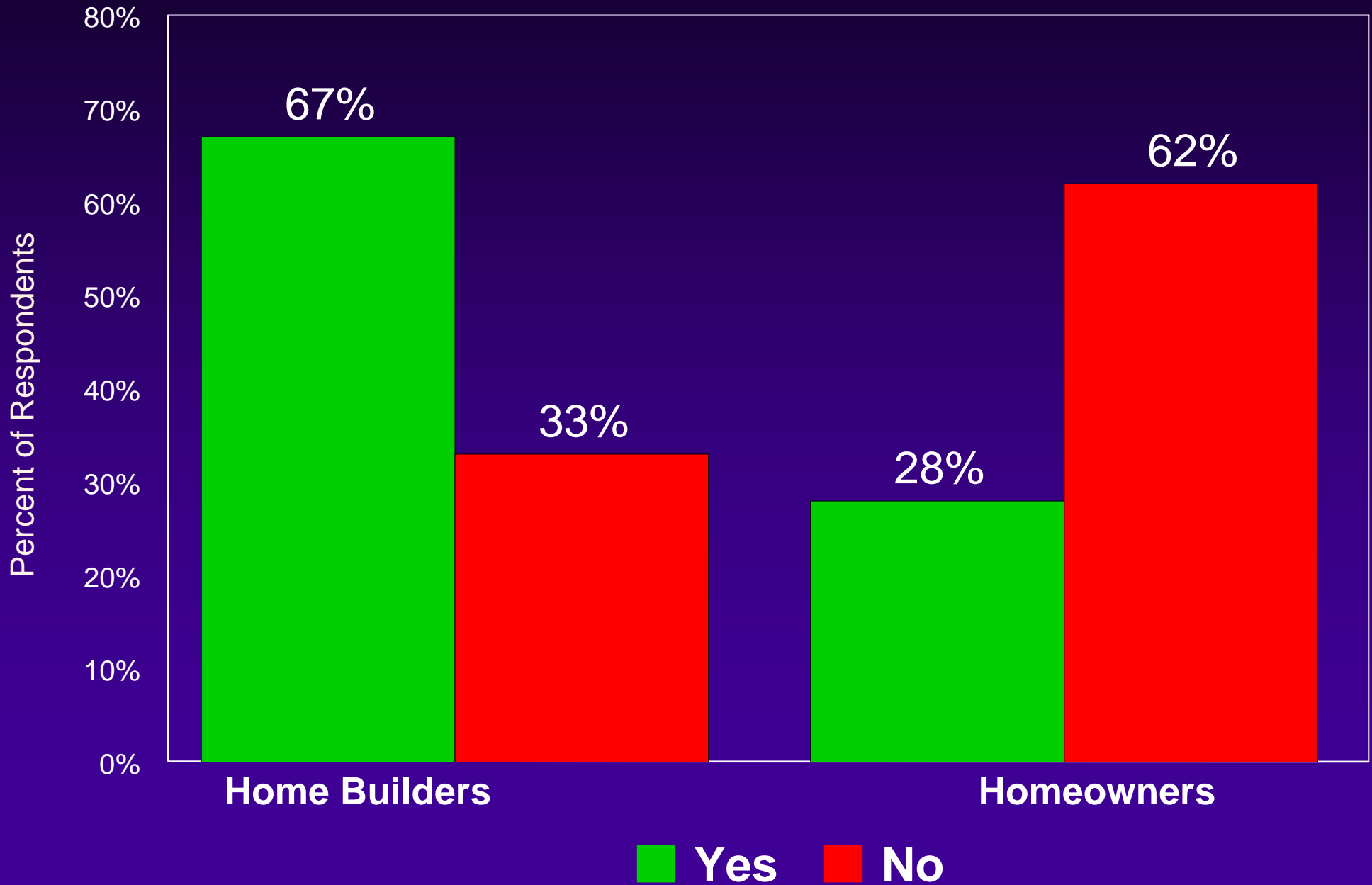
(multiple responses possible)

Home Builders

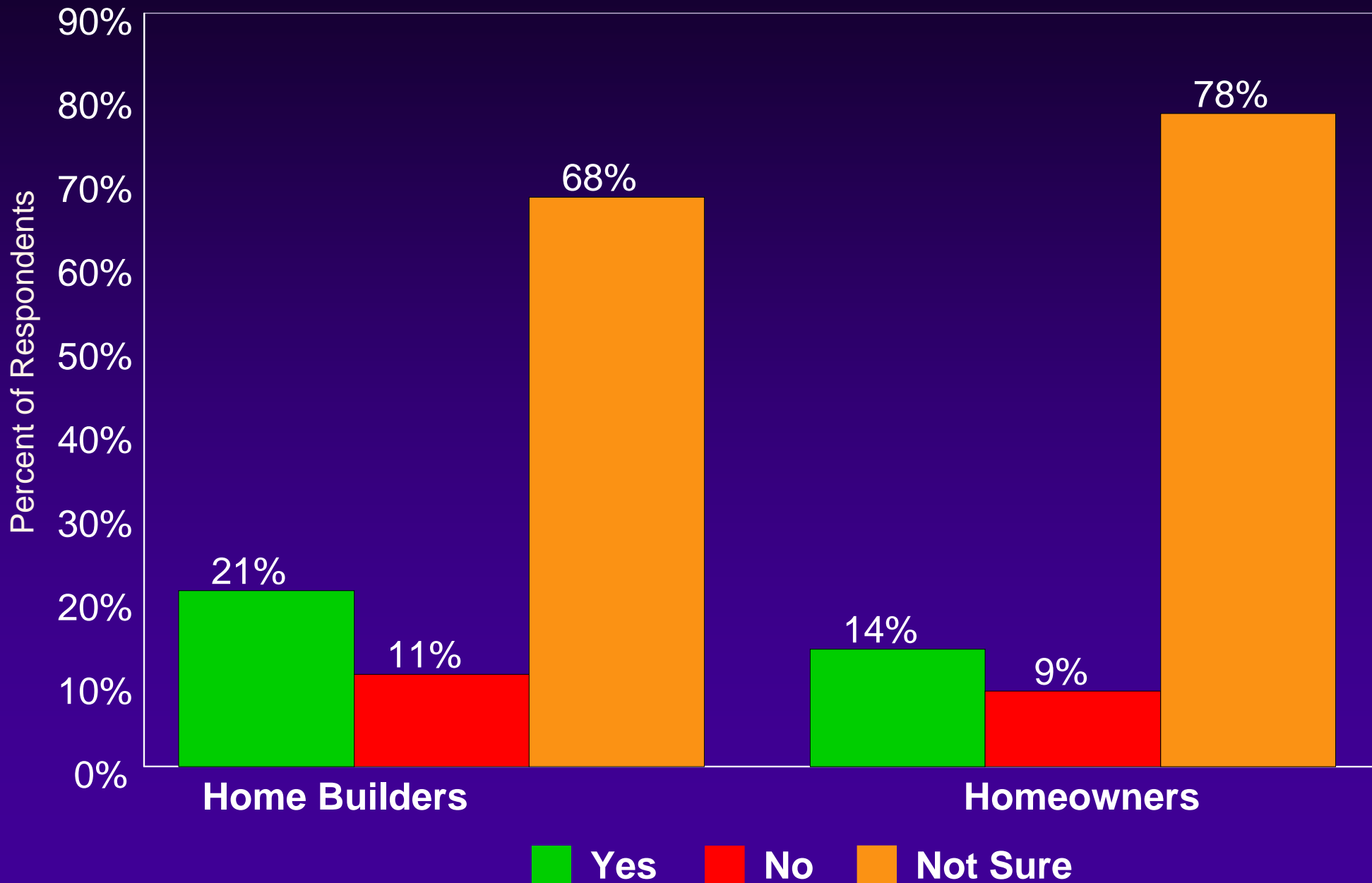
New-Home Homeowners



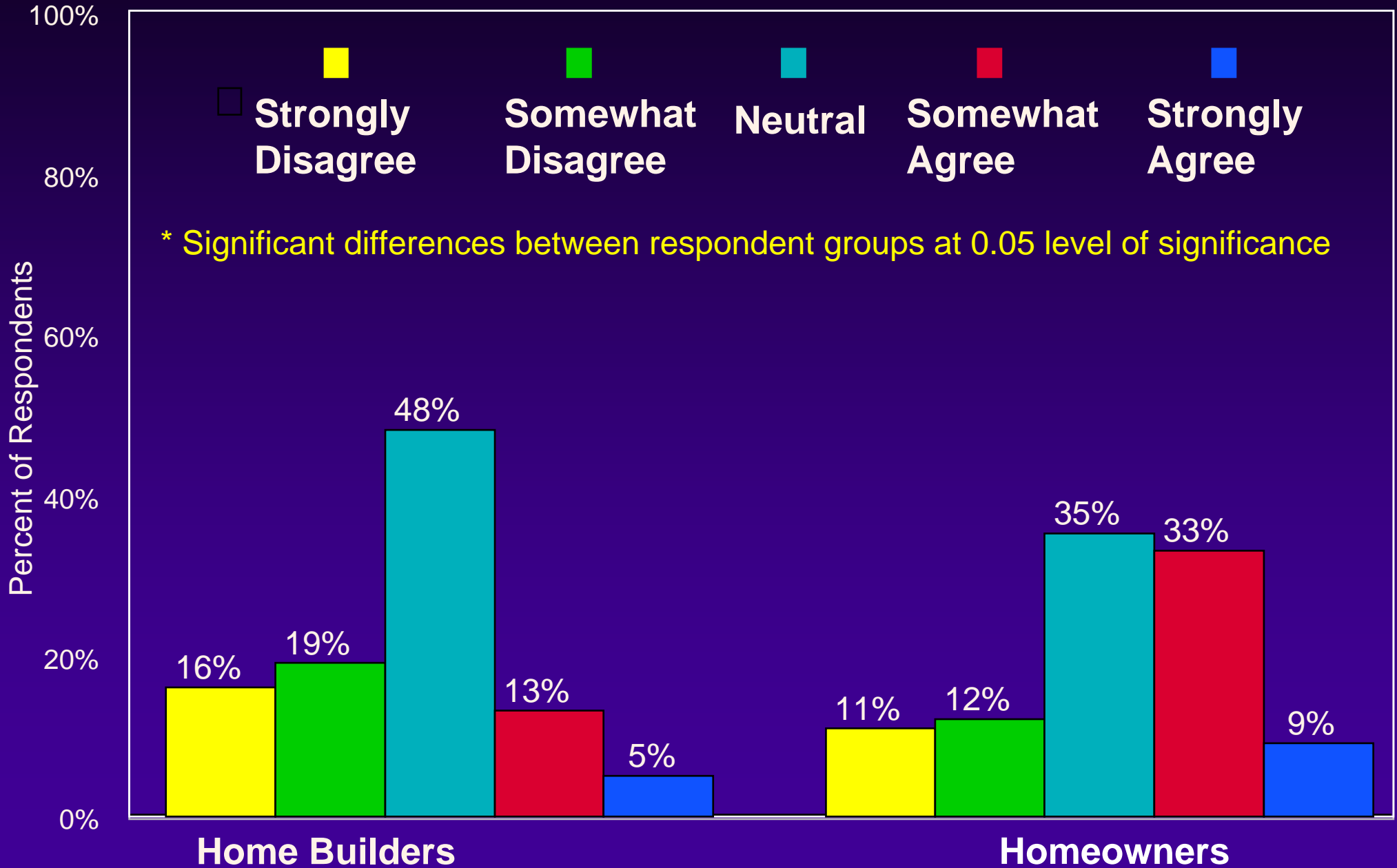
Have you recommended/taken any action to prevent mold in homes you build/purchased? (percent of respondents)



Do you think that there is any cost-effective method to prevent mold from forming in new homes? (percent of respondents)



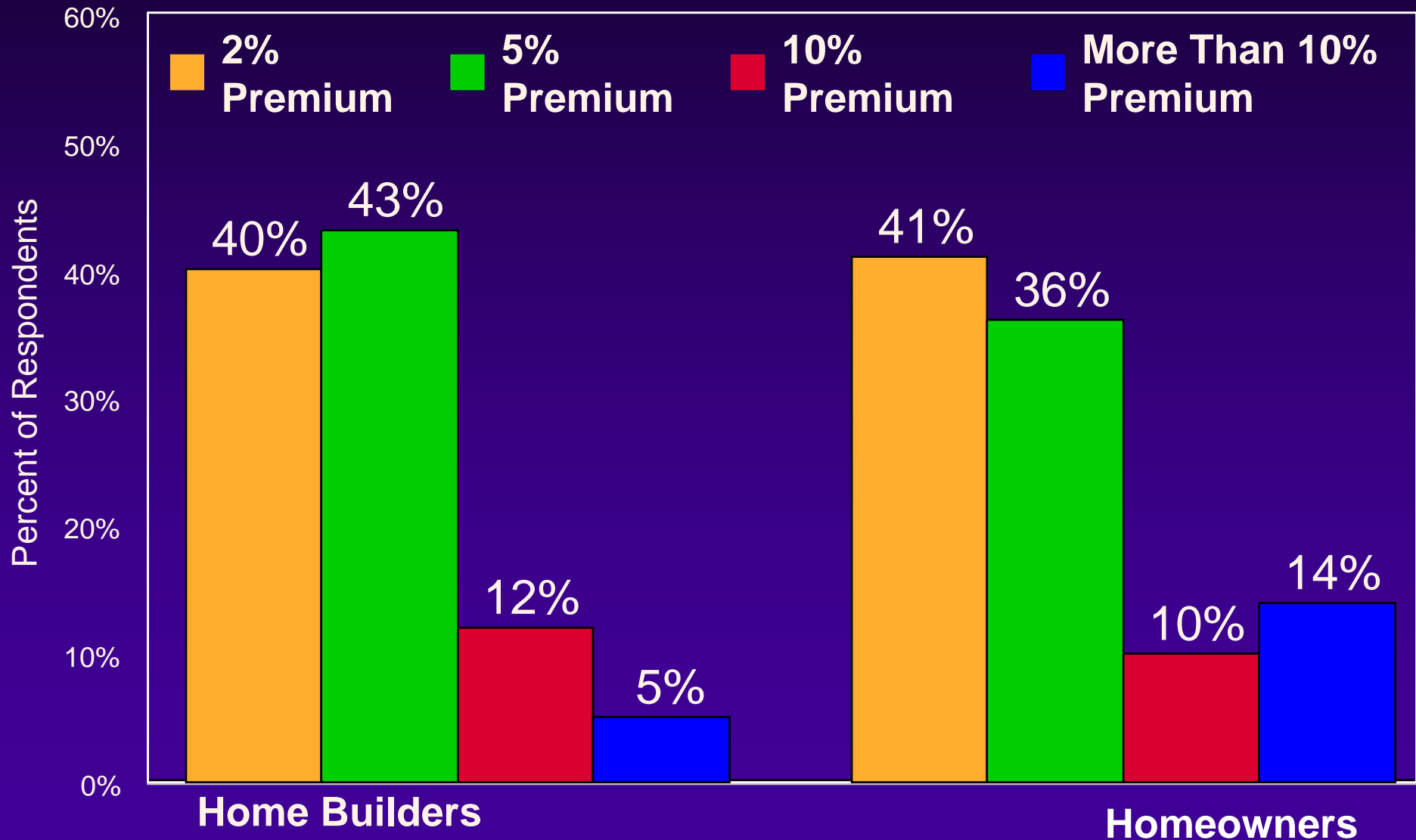
Agreement on Willingness to Recommend or Pay a Premium for a Mold-Free Home (percent of respondents)



Premium you think you (home owners) or your clients (home builders) would pay for an assured mold-free new home for 10 years over a home that does not carry this guarantee.

Base Price=\$100,000.

Percent of Respondents.



Mold and Litigation



Ed McMahon's Beverly Hills mansion.
(ABCNEWS.com)

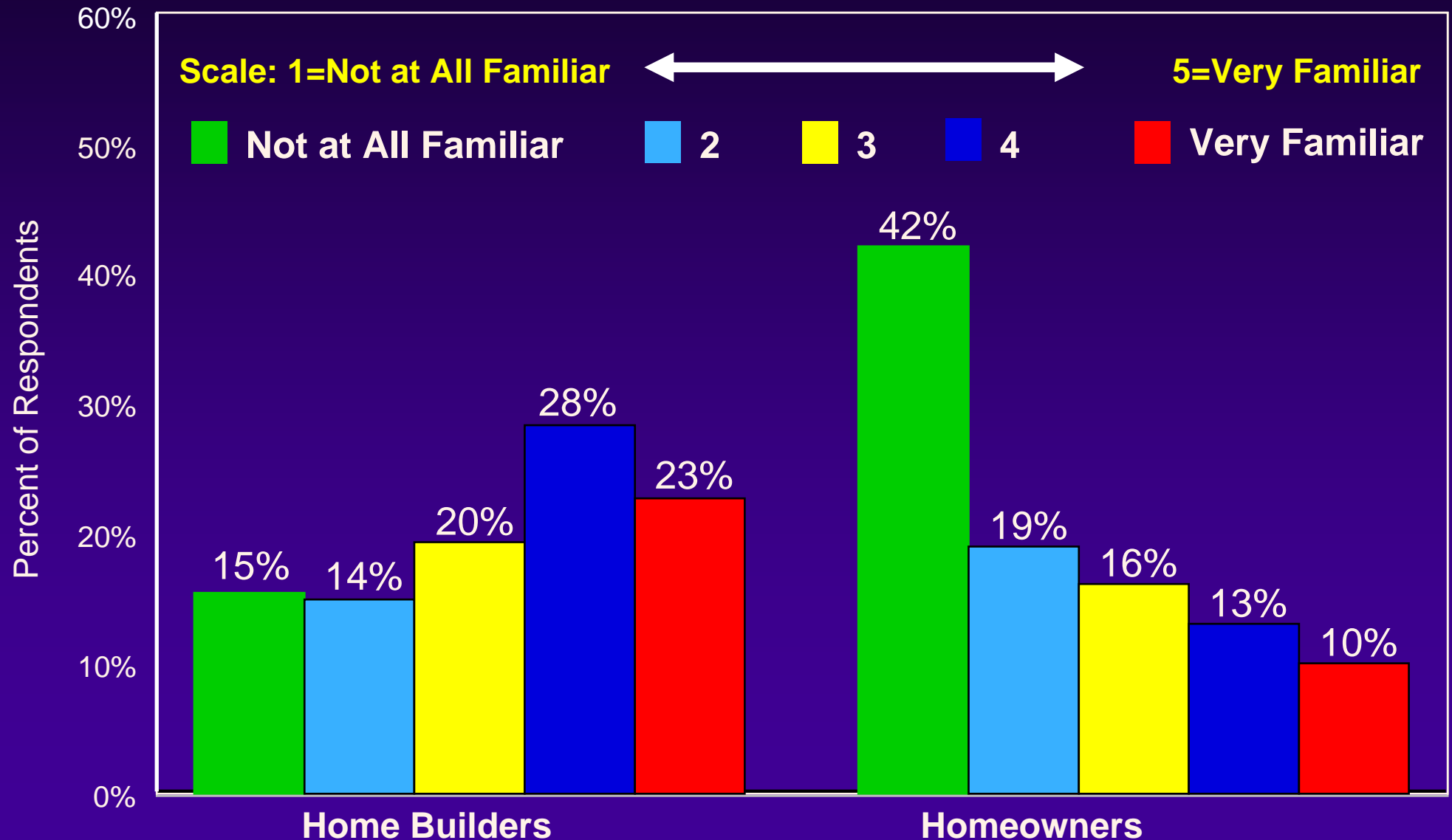


Ed McMahon: 'Death Mold' Killed My Dog

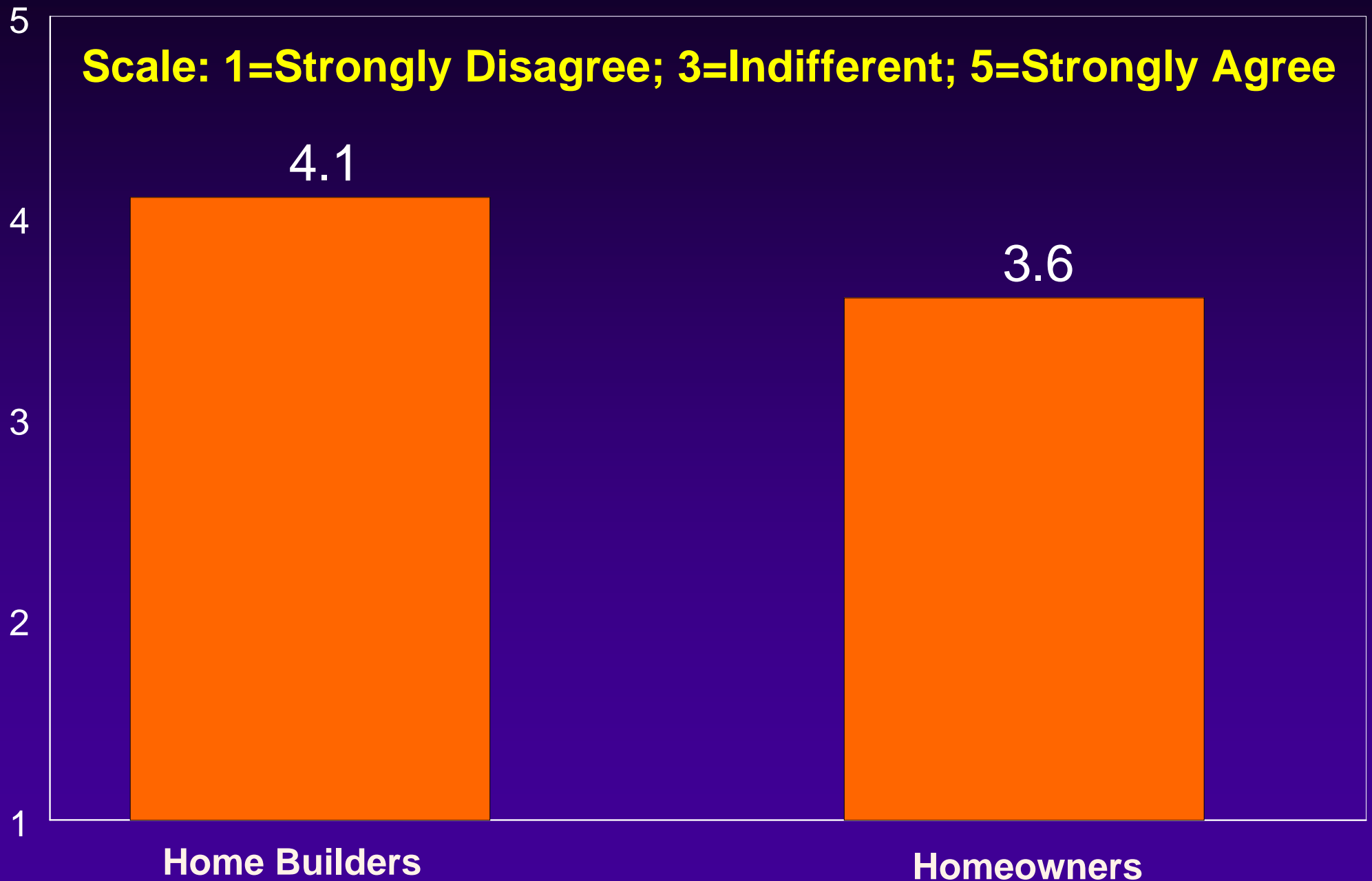
Sues Insurer for \$20 Million Over Botched Plumbing Repair Job

April 11 — Johnny Carson's sidekick has found little to laugh at lately. His dog died, his family has been sick and he's blaming the insurance company.

**There are many lawsuits being filed in the United States on behalf of homeowners against builders claiming health has been damaged due to mold in homes. How familiar are you with this litigation?
(percent of respondents)**



I would like more information on mold prevention.



Concluding Comments

Mold in buildings and residential homes has become a major human-health issue due to recent media coverage and litigation.

Overall, mold was not perceived to be a problem in the homes built or occupied by respondents nor in the neighborhoods where respondents build or live.

However, many statistically significant differences were found between these two groups. For example, builders were more concerned about potential negative aspects of mold, most notably, health risks for homeowners and the potential for litigation.

Concluding Comments

An examination of mold issues from the point-of-view of these two important wood products demand influencers has a two primary benefits.

First, nominal perceptions and actions offer baseline information that gives an overall level of understanding for researchers and practitioners.

Second, the home builder/new-home homeowner dyad is a critical buy/sell exchange structure for wood products. An understanding of the divergence (and convergence) in opinions and behaviors can aid private sector companies and associations as well as public policy makers in crafting and disseminating appropriate unbiased information to these and other stakeholder groups.

Questions?

