

# News

## NATIONAL LIGHTING BUREAU

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### FOR IMMEDIATE RELEASE

#### **LIGHTING INFLUENCES THE TASTE OF WINE, NEW STUDY SHOWS**

**Silver Spring, MD**— Lighting influences how wine tastes and how much consumers are willing to pay for it, the National Lighting Bureau reports, citing conclusions drawn from a series of three German experiments in which more than 500 people tasted white Riesling wines. The study report – “Ambient Lighting Modifies the Flavor of Wine” – was published in the December 2009 issue of *Journal of Sensory Studies*.

According to the Bureau, the only significant variable in the experiments was the ambient lighting in the spaces where study participants sat. Researchers used a series of fluorescent lamps that produced red, blue, green, or white light. People rated the wine’s quality higher, in general, when they drank it in a room whose ambient lighting was red or blue versus green or white. They also found the test wine much sweeter and fruitier when sampled in a room illuminated by red-tinted fluorescent lamps, and were willing to spend more for it.

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The first experiment involved 75-male and 75-female visitors to the Allendorf winery in Oestrich-Winkel on the Rhine River. The 150-person sample tasted Allendorf Festival 2004, a dry Riesling from the Rheingau region, in a specially designed, windowless tasting room. The tasters sat facing a wall illuminated by the special fluorescent lighting system and sampled four 100mL pours served in opaque black, lidded glasses that obscured the wine from view. (Prior experiments have shown that the color of the beverage itself can affect assessments of its taste.) Participants scored each sample from 0 to 10 points for each of five qualities: fruitiness, spiciness, bitterness, sourness, and sweetness. The participants did not know if the four samples were the same or different, nor were they asked to differentiate between taste and aroma. On average, the participants liked the wine better when they drank it under the influence of red or blue light rather than green or white.

In the second experiment, 69 male and 66 female subjects – mostly students at the Johannes Gutenberg-Universität Mainz – sampled eight 50mL pours; four each of two Allendorf wines (dry and semi-dry Rheingau Rieslings). Participants perceived a wine to be spicier when they tasted it under blue or green light rather than red or white. Interestingly, blue lighting made the wine taste bitter, but subjects nonetheless liked the wine more under those lighting conditions. About six of every ten participants (58.5%) thought they tasted more than two wines. About two in ten (19.3%) said (correctly) that they had tasted two wines. The rest thought they had tasted one wine.

The third experiment involved 84 male and 146 female participants, each of whom tasted 100mL of a dry Rheingau Riesling served 50mL at a time in two lidded, black glasses labeled “1” and “2.” The researchers used three ambient colors – blue, red, and white – and randomly assigned each participant to one of the six possible sequences of two colors. For example, if assigned to the color sequence blue-red, the participant tasted the

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first glass of wine under blue lighting and the second under the red. Participants evaluated each wine based on its aroma and taste. They rated the wine much fruitier when they drank it under red light.

According to NLB Chair Howard P. Lewis (*Lighting Alternatives, Inc.*), the researchers intend to conduct additional experiments. “In the meantime,” he said, “it seems evident that lighting color – which includes the color of room surfaces – affects the taste of wine.” He concurs with the study’s lead researcher (Dr Daniel Oberfeld-Twistel) that serious wine tastings should be conducted in neutral-color environments.

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*Lighting Influences Tastes of Wine*  
*(ADD THREE)*

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More information about the National Lighting Bureau is available at its website ([www.nlb.org](http://www.nlb.org)) or by contacting the National Lighting Bureau office (8811 Colesville Road, Suite G106, Silver Spring, MD 20910; tel. 301/587-9572; fax 301/589-2017; e-mail [info@nlb.org](mailto:info@nlb.org)).

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