

Schlitz Brown Bottle

Scientists Praise It

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Chicago

April 1, 1911

Mr. Alfred Uihlein
Schlitz Brewing Co.
Milwaukee, Wis.

Dear Sir:

Answering your favor of recent date in regard to the influence of light on the quality of beer, will say that our observations, extending over the last twenty-five years, have convinced us beyond a doubt that exposure of beer to light has a very detrimental influence on its quality generally, but especially upon the flavor of the beer.

Not all beers are alike susceptible to this influence of light, pale strong hopped beers of the "Pilsen" character, that is, the type that is most favored in America, being especially susceptible, and acquiring, when only exposed for a few minutes to the sunlight, a disagreeable odor.

We have tested beers repeatedly in this direction placing the bottles into direct sunlight, and testing the same after one, two, three and five minutes exposure, found that the beer with three and five minutes exposure became undrinkable, on account of the peculiar odor developed.

The detrimental effect of light upon beer can be successfully counteracted by the employment of brown or dark colored glass bottles, and such bottles are therefore recommendable.

Authorities on the subject of the detrimental influence of light on beer are:

- C. Lintner, Lehrbuch der Bierbrauerei 1875, S. 343
- Beck, Zeitschrift für das gesamte Brauwesen, 1882, S. 370
- V. Huth, Der Bierbrauer 1876, S. 127
- Ney, Allg. Zeitschr. f. Bierbr. u. Malzfabr., 1878, S. 273

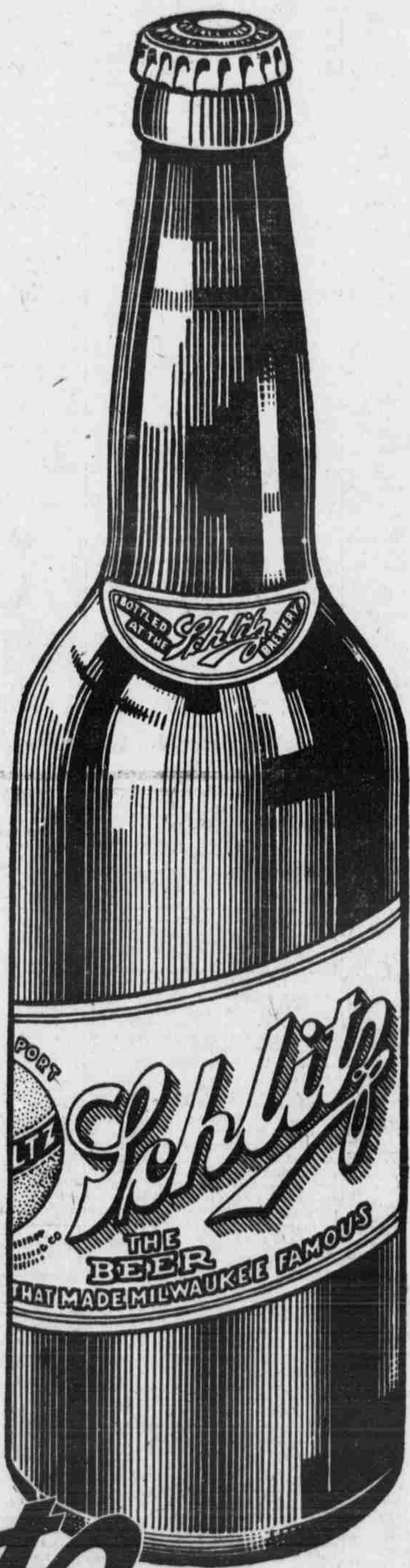
The latest and most exhaustive series of experiments on this subject are those by the well known scientist J. Brand, in an article entitled "Tests on the Protection afforded by the beer bottle glass against the influence of light." "Zeitschrift für das gesamte Brauwesen," 1908, page 333.

Yours very truly,

RW/B

Wahl-Henius Institute

Letter to Mr. Alfred Uihlein, written by Robert Wahl, President of the Wahl-Henius Institute of Fermentation, Inc., Chicago.



"Beer bottles should be manufactured from reddish-brown glass, inasmuch as same will to a much higher degree than any other kind of glass, minimize the influence of the rays of light on the quality of beer, and will protect the latter against acquiring the disagreeable taste (Sonnengeschmack) due to the chemical action of the light."

"In white and green glass bottles the beer is most affected by the action of the light. Such bottles are, therefore, absolutely inappropriate and should never be employed by brewers." (Signed) Prof. Dr. F. Schonfeld.

From the Illustrated Brewery Encyclopedia, p. 99 (Illustriertes Brauerei Lexikon.) Published by Dr. Max Delbruck, Privy Councillor, Professor at the Royal Agricultural College and Director of the Institute for Fermentation at Berlin. Berlin: 1910.

"Bottles of strong glass should be selected. They should never be of colorless glass, inasmuch as through the influence of light the beer will not only take on a disagreeable odor and taste, but will also become turbid." (Lintner.)

Extract from Die Malz und Bierbereitung. Published by E. Leyss, Director of the Brewing Academy in Augsburg. Tenth Edition, Stuttgart, 1900, page 680

"The beer in the white glass bottle had taken on disagreeable odor and taste and was absolutely undrinkable. The beer in the dark bottles did not show this peculiar odor and taste." (G. Beck.)

Translation of Extract from Zeitschrift für das gesamte Brauwesen, 1882—page 378.

"It appears that chemical changes are produced in the beer, which attains an exceedingly unpleasant taste and a disagreeable odor."

Extract from Letters on Brewing (Vol. 5) published by Hamke's Brewers' School and Laboratories. Dr. G. Thevenot.

"While beer quickly deteriorates when it is exposed to direct sunlight, such deterioration will eventually take place in diffused light."

Extract from Proceedings of the Second International Brewers' Congress held in Chicago, October 19-21, 1911.

"Beer acted upon by light soon takes up the very disagreeable so-called 'light taste,' and also a repulsive, skunk-like odor. Beer so affected is offensive to the palate of most consumers."

Extract from Beer Bottlers' Handy Book (By Philip Dreesbach, Bottling Expert and Instructor in the Wahl-Henius Institute of Fermentation.) 1906.

Dr. W. Schulze (Allgemeine Zeitschrift für Brauerei, 1888, p. 593) finds that dark brown bottles offer the best protection against the rays of the sun.

"It is interesting to note the observation that beer in colorless bottles exposed to diffused light will undergo a change, precipitating a heavy sediment and taking on a disagreeable odor and taste."

Extract from Die Theorie und Praxis der Malzbereitung und Bierfabrikation. Published by Director Julius E. Thausing, Leipzig, 1893, Fourth Edition, page 920.

"In recent years the observation has been made that the rays of sunlight effect a chemical change in beer. For this reason the use of beer bottles blown from colorless glass is diminishing, bottles blown from colored glass being chosen; the amber colored bottles, which, when held towards the light, show the color of light beer, are particularly to be recommended."

Extract from Die Praxis der Bierbrauerei. Published by G. E. Habich, 1883—page 786.

"It is a known fact that sunlight and daylight influence unfavorably the taste and flavor of the beer and care must be exercised in the selection of the bottles."

J. Brand (Zeitschrift für das gesamte Brauwesen, 1908, p. 333).

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