## **CERTIFIED BEER SERVER PREP TALKS**

### **SESSION #5**

#### Question 1: What flavor changes occur in beer as it gets old?

First, hop flavors and aromas tend to deteriorate. As the beer continues to age, oxidation flavors of honey, caramel, toffee, and/or dark/dried fruit begin to appear. With late-stage aging, the beer will develop papery, waxy, or sherry notes.

### Question 2: How does temperature impact the way beer ages?

Cold temperatures slow the rate of aging, while warmer temperatures age beer more rapidly. Beer stored at ambient temperatures will age about ten times as quickly as beer stored under refrigeration. Beer stored at elevated temperatures (>90 °F/32 °C) ages quite rapidly, and will develop age-related off flavors in a couple of days.

# Question 3: What happens if you take beer out of the refrigerator and allow it to warm up to room temperature and then place it back in the refrigerator?

Not much. Although the myth exists that beer will be ruined if taken out of the refrigerator, allowed to warm to room temperature, and then cooled down again, beer can handle changes within that temperature range without sustaining flavor damage. Beer should be kept cold as much as possible to limit oxidation, but if necessary, the beer can be allowed to warm to room temperature a few times without any adverse effects.

### Question 4: What flavor/aroma is typically associated with lightstruck beer?

Lightstruck beer is commonly described as smelling "skunky." In fact, the flavor compound that forms in lightstruck beer is quite similar to the compounds found in skunk spray!

### Question 5: What impact does beer packaging have on lightstruck flavor development?

Since lightstruck flavor is caused by light, different packaging materials can impact the chance that this flavor may show up in a beer. Packaging like kegs or cans that totally block light will prevent this flavor from developing in all cases. However, glass bottles do let light through, and certain types of glass allow more of the damaging wavelengths of light to contact the beer. Brown glass does a pretty good job of protecting beer from light damage, but green- and clear-glass bottles let most of the damaging wavelengths of light through, often resulting in skunky beer.

# Question 6: How quickly will lightstruck flavor develop in unprotected beer?

Unprotected beer exposed to direct sunlight can develop skunky aroma in as little as a minute. Beer exposed to fluorescent or LED light will take a bit longer to skunk but will still develop skunky aroma in an hour or so.



