**Unexpected link between bread consumption and positive breathalyzer tests**

Avoid consuming excessive bread when driving to prevent complications

On May 21, in Xiangyang, Hubei Province, People's Republic of China, a driver (whose name remains confidential) was pulled over by traffic police on suspicion of driving under the influence. The traffic police informed the driver that the breathalyzer test revealed a blood alcohol concentration surpassing the legal limit, stating, “You've been drinking.” Taken aback, the driver swiftly replied, “I haven't consumed any alcohol during my time here in Xiangyang.” It was then that the traffic police noticed the driver chewing something and questioned, "What are you eating?" The driver promptly answered, “I'm eating bread,” while presenting an unopened bag of bread from the car. After spitting out the bread, the driver underwent another breathalyzer test, which, as expected, demonstrated that the blood alcohol concentration was below the legal limit. Recognizing the misunderstanding, the traffic police expressed appreciation to the driver and permitted them to proceed. This incident clearly illustrates that bread, due to the presence of yeast and other bacteria during the fermentation process, can produce minute quantities of alcohol. Although the alcohol content varies depending on the specific type of bread, wheat and rye breads generally contain negligible amounts. Among the tested foods, American-style burger rolls and French-style sweet milk rolls exhibited the highest alcohol content, approximately 1.2 g, while pumpernickel rye bread had the lowest at around 0.03 g. Therefore, if you frequently drive, it is advisable to abstain from consuming bread to avoid unnecessary complications.

Ethanol contents in various food items (Gorgus et al., 2016).

|  |  |  |
| --- | --- | --- |
|  | **Mean** | **SD** |
| **Grape juice (g/L)** |  |  |
|  Brand 1 (red) | 0.77 | ±0.05 |
|  Brand 2 (rose) | 0.29 | ±0.02 |
|  Brand 3 (red) | 0.86 | ±0.10 |
| **Apple juice (g/L)** |  |  |
|  Brand 1 | 0.24 | ±0.01 |
|  Brand 2 | 0.06 | ±0.01 |
|  Brand 3 | 0.66 | ±0.05 |
|  Brand 4 | 0.10 | ±0.02 |
|  Brand 5 | 0.26 | ±0.05 |
| **Orange juice (g/L)** |  |  |
|  Brand 1 | 0.72 | ±0.05 |
|  Brand 2 | 0.73 | ±0.03 |
|  Brand 3 | 0.30 | ±0.02 |
|  Brand 4 | 0.16 | ±0.01 |
|  Brand 5 | 0.20 | ±0.01 |
| Malt beer (g/L) |  |  |
|  Brand 1 | 2.15 | ± 0,2 |
|  Brand 2 | <LOQ |  |
|  Brand 3 | 0.44 | ±0.02 |
| Vinegar (g/L) |  |  |
|  Vinegar (white, from wine) | 2.64 | ±0.09 |
| Bread and bakery products, packed (g/100 g) |  |  |
|  Wheat toast | 0.18 | ±0.01 |
|  Wheat rolls | 0.14 | ±0.01 |
|  Burger rolls, American style | 1.28 | ±0.08 |
|  Wheat and rye bread | 0.29 | ±0.02 |
|  Crispbread, Scandinavian style | <LOQ |  |
|  Zwieback | <LOQ |  |
|  Rye bread | 0.18 | ±0.01 |
|  Pumpernickel, rye | 0.03 | ±0.01 |
|  Rye bread, traditional | 0.20 | ±0.01 |
|  Rye bread, organic | 0.17 | ±0.01 |
|  Apple pie, traditional, packed | <LOQ |  |
|  Sweet milk rolls, French style | 1.21 | ±0.02 |
| Bread, loose (g/100 g) |  |  |
|  Wheat bread | 0.12 | ±0.01 |
|  Bananas |  |  |
|  Banana, green peel | <LOQ |  |
|  Banana, ripe | 0.02 | ±0.01 |
|  Banana, very ripe, peel with dark zones | 0.04 | ±0.01 |
| Other fruit (g/100 g) |  |  |
|  Pear, ripe | 0.04 | ±0.01 |
|  Mango, ripe | <LOQ |  |
|  Apple sauce, ready to eat | <LOQ |  |
|  Fruit salad, ready to eat | 0.01 | ±0.01 |
|  Dried fruit |  |  |
|  Prunes, soft | <LOQ |  |
|  Figs, soft | <LOQ |  |
| Dairy products (g/100 g) |  |  |
|  Kefir 1 | 0.02 | ±0.01 |
|  Kefir 2 | <LOQ |  |
|  Kefir 3 | <LOQ |  |
|  Yogurt, cherry | 0.02 | ±0.01 |
|  Yogurt, with Bircher muesli | <LOQ |  |
| Data represent mean values (g/L or g/100 g) and standard deviations (SD) of three independent measurements/samples.<LOQ, limit of quantification |

**References**

1. Gorgus, E., Hittinger, M., & Schrenk, D. (2016). Estimates of ethanol exposure in children from food not labeled as alcohol-containing. Journal of analytical toxicology, 40(7), 537-542.
2. Neo Tube. (n.d.). Foreign man stopped by police for “eating bread” ...Why? [Retrieved May 24, 2023](https://mp.weixin.qq.com/s/nnHFhlmGgkU29BdQbRJBBg).