Nutrition News

Department of Human Nutrition

Research and Extension

March 2010

Caffeine in Energy Drinks

Research has shown that energy drinks are quite popular with teens and young adults. Energy drinks are beverages that claim to increase energy and performance. Since Red Bull® debuted in 1997, energy drinks sales have increased to more than \$3 billion in annual sales in the United States.

Not to be confused with sports drinks, many energy drinks on the market contain caffeine, a variety of B vitamins and minerals as well other ingredients such as taurine (taw'-rēn), glucuronolactone (glū'kŭ-rō'nō-lak'tōn), and guarana (gwah-rah'nah). The B vitamins are involved in energy metabolism, caffeine increases alertness and improves performance,

taurine and glucuronolactone decrease fatigue, and guarana is a natural source of caffeine.

So what is so special about energy drinks and why are teens and young adults drawn to them? Some teens and young adults alike are attracted to energy drinks because of the supposedly improved athletic performance and increased endurance associated with energy drink consumption. College students have been reported to use energy drinks for increased energy, sleep avoidance, studying for long periods of time, driving for long periods, and mixing with alcohol at parties.

Regardless of why a person may consume energy drinks, caution should be taken since caffeine is a

central nervous system stimulant and too much can cause an increased in heart rate, elevate blood pressure, nausea, anxiety, dizziness, restlessness and tremors. Although energy drink manufacturers are required to list caffeine as an ingredient on the label, they are not required to list the amount. The amount of caffeine varies between energy drink brands, so one should not assume the amount in one brand is the same as the amount in another. Consumers need to contact the manufacturer if the amount of caffeine is not stated on the label. The next page contains a table with a list of familiar drinks and their caffeine content.

Caffeine Content in Common Drinks

| Drink | Amount (oz) | Caffeine amount (mg) |
|------------------------|-------------|----------------------|
| Monster® energy drink | 16 | 160 |
| Red Bull® energy drink | 8.3 | 80 |
| Jolt® cola | 12 | 100 |
| Coffee | 5 | 60-150 |
| Tea | 5 | 40-80 |
| Mountain Dew® | 12 | 55 |
| Dr. Pepper® | 12 | 61 |
| Diet Coca Cola® | 12 | 45 |
| Pepsi Cola® | 12 | 43 |
| 7-Up® | 12 | 0 |
| Mug Root Beer® | 12 | 0 |

Studies suggest a moderate amount of caffeine (100-200mg) intake a day is safe; however, caffeine affects people differently depending on their gender, size, and their sensitivity to caffeine's effect. Therefore, vulnerable populations such as children and pregnant women should limit their caffeine intake because of the side effects associated with higher consumption. If one is trying to decrease his or her caffeine intake, it is recommended the caffeine is reduced gradually to avoid withdrawal symptoms such as severe headaches, irritability, muscle aches, and temporary depression.

References:

- 1. International Food Information Council. Energy Drinks: The Fads and the Facts. January/February 2008
- Malinauskas BM, Aeby VG, Overton RF, Carpenter-Aeby T, Barber-Heidal K. A survey of energy drink consumption patterns among college students. Nutrition Journal 2007 retrieved July 2, 2008 from <u>www.nutritionj.com/content/6/1/35</u>.
- 3. Medical Dictionary. Retrieved March 12, 2010 from http://www.medilexicon.com/medicaldictionary.php
- 4. New York Times. Taste for Quick Boost Tied to Taste for Risk. Retrieved June 25, 2008 from www.nytimes.com/2008/05/27/health/27well.html
- 5. Teens Health. Caffeine. Retrieved July 8, 2008 from http://kidshealth.org
- 6. U.S. Food and Drug Administration. FDA and You: News for Health Educators and Students. Fall 2007; Issue No. 14.

For more information about healthy eating, contact your local extension office.

The Food Assistance Program can help people of all ages with low income buy nutritious foods for a better diet.

To find out more, call toll-free 1-888-369-4777.

Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit **Tandalayo Kidd**, Assistant Professor, Department of Human Nutrition; Kansas State University; *Caffeine in Energy Drinks*; March 2010.

K-State Research and Extension is a short name for the Kansas State University Agricultural Experiment Station and Cooperative Extension Service, a program designed to generate and distribute useful knowledge for the well-being of Kansans. Supported by county, state, federal and private funds, the program has county Extension offices, experiment fields, area Extension offices and regional research centers statewide. Its headquarters is on the K-State campus, Manhattan. This material was funded in part by USDA's Food Stamp Program through a contract with Kansas Department of Social and Rehabilitation Services.

Brand names appearing in this publication are for product identification purposes only.

No endorsement is intended, nor is criticism implied of similar products not mentioned. Kansas State University is an equal opportunity provider and employer. **Kansas State University Agricultural Experiment Station and Cooperative Extension Service**, Manhattan, Kansas State University, County Extension Councils, Extension Districts, and the U.S. Department of Agriculture cooperating.