

A GOOD CUP OF JOE?

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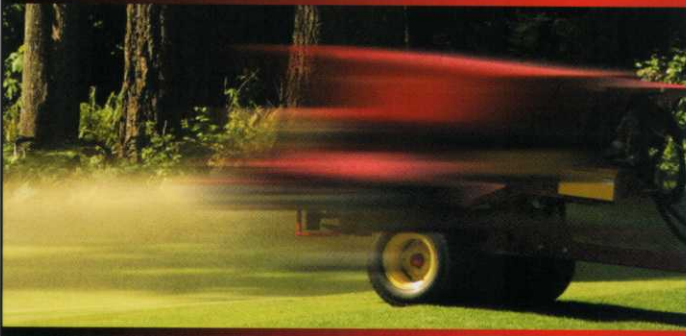
How many cups of coffee have you had so far today? More than three? Supplemented with cream and sugar? Are you putting your health at grave risk by consuming this popular beverage?

Coffee. Latin genius *Coffea*. There are over 25 different species of coffee, the two most popular of which are Arabica and Robusta. First developed as a libation back in the 9th century by the Mufti people of Aden, coffee grew in popularity for the following 400 years throughout the Yemeni district of Arabia. Today this area is called Persia, Egypt, Syria and Turkey.

- + 52% of adults in America drink coffee
- + 35% of coffee is consumed black
- + The average American coffee drinker consumes 3.5 cups a day



Long before Starbucks became popular, the small coffee shop called Kivhan was popularized in Turkey, roughly 700 years ago. Soon laws had to be created to control the demand for the potent beverage. Coffee was so intrinsic to the Turkish way of life that women were allowed to divorce their husbands if denied their

gone in 60 seconds



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LD50 Amount

Name	Term	Oral LD50	Pounds to Kill A 150 lb. Man
Benomil	Practically None	10,000	1.5 lbs.
Mancozeb	Practically None	8,000	1.4 lbs.
Iprodione	Slightly Non-Toxic	5,000	.75 lbs.
Propiconizol	Slightly Toxic	1,300	.2 lbs.
Orthene	Moderately Toxic	866	.13 lbs.
Sevin	Moderately Toxic	850	.12 lbs.

morning cup of "Joe."

It wasn't long before coffee was distributed throughout Europe, much to the chagrin of wine producers. Fearing too much competition they petitioned the Pope to damn the elixir as unholy. Prior to his judgment, Pope Clementine smelled the brew. Then he tasted it. Apparently he embraced coffee for

LD50 Terminology

Term	Quantity	Example
Extremely Toxic	< 1	Vx Nerve Agent
Highly Toxic	1 - 50	Sarin Nerve Gas
Moderately Toxic	50 - 500	Chlordane
Slightly Toxic	500 - 5,000	Sevin
Practically Non-Toxic	5,000 - 15,000	Methoxychlor
Realtively Harmless	> 15,000	Methoprene

shortly after his first cup he baptized the caffeine concoction as a "Christian" drink.

In the 1600s coffee was popularized in England. Originally used as a pharmaceutical, coffee soon found its way to college campuses throughout Britain. Penny Universities, so named because a cup cost one cent and students often learned more over this libation than in the classroom, became very popular. In fact the London Stock exchange was conceived in a coffee house.

But not all of history was favorable for the ingestion of this rich elixir. For a brief period in the mid 1600's coffee consumption was prohibited in its birth region of Turkey. Those daring the law could find themselves bound and placed inside a leather satchel and then dipped in the local waterway. In England, the Women's Petition Against Coffee movement was established. Fortunately for those of us who like the beverage these petitions were short-lived.

By 1723 the commodity had been brought across the big pond and was established in America. The following 200 years witnessed a grand rise in coffee's popularity, especially in the United States. By 1940 the U.S. was importing 70 percent of the world's coffee production.

Yes, coffee is extremely popular. In fact 4,848 cups are enjoyed every second of every day in our country. And with

(Continued on Page 11)

A Good Cup of Joe?

(Continued from Page 10)

each cup, consumers are imbibing over 2,000 identifiable substances, one of which is caffeine. Each 8 ounce cup of regular coffee contains 85 to 120 milligrams of caffeine. Instant typically has between 60 and 85 milligrams and Espresso 30 to 50 milligrams of the potent chemical. Other common caffeinated products include tea at 40 milligrams; one can of cola at around 42 milligrams and one chocolate bar which has 6 milligrams.

But here is a not so fun fact about your morning jolt. Caffeine has a lethal dose (LD50) of 192 milligrams per kilogram of body weight. Your favorite "cup of Joe" is much more toxic than what typically comes out of your chemical application spray tank!

Whoa! Oral LD50 is the lethal dose necessary to kill 50 percent of the test population. It is expressed in milligrams per kilogram of test subject body weight and indicates the amount of material necessary to kill one half of the test population after administration. The above chart details LD50 terminology. According to the LD50

chart, caffeine, with an LD 50 of 192 ml/kg, falls into the "moderately toxic" category along side of Chlordane, a substance banned from use in horticulture due to its toxicity. How does that Latte' taste now?

For that matter, if you use baking soda (LD50 of 4,220), table salt (LD50 of 3,000) or grain alcohol (LD50 of 2,80) be aware of their potential toxicity. Now that you can't enjoy your food, let us put the volumes into perspective.

In order to kill 50 percent of a population weighing 150 pounds, test subjects would need to consume .63 pounds of baking soda, .44 pounds of table salt, .3 pounds of grain alcohol or an incredibly small amount, .027 pounds, of caffeine in one dose. The second chart on Page 10 investigates the LD50 amounts, expressed in pounds, of commonly used turf chemicals necessary to be lethal to an average 150 pound human.

None of these materials are anywhere near as toxic as the common cup of coffee. Yet the general public's perception when they see a plant protection application of chemicals upon a golf course is one of extreme concern. As professionals we

understand that it truly is the dose that makes the poison.

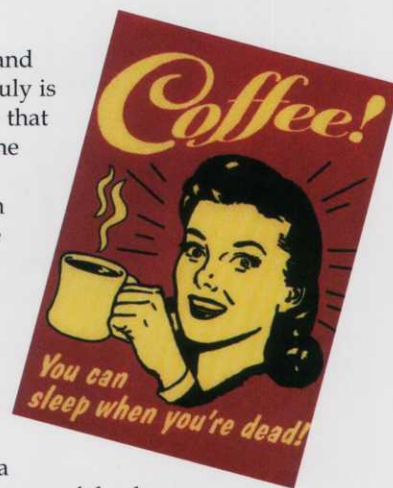
As an example of "too much of a good thing," I calculate that

to have a

50/50 chance of death

I would have to consume quite a bit of coffee. We know that the Oral LD 50 of caffeine is 192 mg/kg. If one eight-ounce cup contains an average of 100 milligrams of caffeine, and I weigh 180 pounds, then I would need to drink over 160 cups of coffee to put my system over the top.

That is 10 gallons of coffee!!! Talk about bladder control! And talk about putting your next "cup of Joe" into perspective!



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