

A is for Arsenic

GREEN SIDE UP



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A is for apple, aspirin and arsenic. An apple is a fruit. Aspirin is salicylic acid. Arsenic is a natural element classified as a "heavy metal" in the Periodic Table of Elements found in every chemistry classroom and textbook in the world.

An apple a day purportedly keeps the doctor away. Too many apples and your digestive track may either be set free or bound up depending on your constitution and metabolism.

Take two aspirin to reduce a fever, ease joint pain and prevent serious damage from a heart attack. Swallow too much aspirin too often and you can thin your blood too much and also eat a hole in your stomach lining.

Take some arsenic atoms and combine them with some carbon, hydrogen and oxygen atoms and make MSMA. Dilute it with water and kill some weeds in turfgrass. Mix it in a cup of tea and serve it to some guests and you can write a comedy play called, "Arsenic and Old Lace." Maybe that's how arsenic came to be known as a poison, and forgotten as a naturally occurring element.

Of course it really depends on how much arsenic was put into the cup of tea, but then let's not quibble about details. It seems only Poison Control Centers at hospitals understand that "dose makes the poison." It has been shown time and again that practically any substance or product abused and used in excess can have negative consequences.

It is obvious that arsenic compounds and other pesticides along with many other substances including cleansers, solvents, petroleum products, and even medicines can have negative effects on human beings. It is how these products are used and how people are exposed to them that define the real risk to human health aside from allergic reactions.

The recent studies coming out of South Florida reporting high levels of arsenic in golf course water and soil samples reflect the total

arsenic and do not differentiate or explain where the arsenic comes from. Since arsenic is on the label of MSMA, then a direct link is inferred. But one study also inferred that 492 metric tons of arsenic was applied to Florida golf courses by simply multiplying the number of golf course (1400) times the average size (150 acres) by an average application of 11.7 lbs of MSMA per acre per year.

What is troubling is that the basic assumption that we apply MSMA to the total acreage of a golf course is incorrect, and thus puts the calculations way off the mark. We may be contributing arsenic to the environment, but let's get the numbers right first. We have responded to those miscalculations.

While the arsenic levels in the samples from South Florida are higher than the threshold levels set by state and federal officials. It is not clear from the studies if the arsenic is bio-available to humans or is just a calculated statistic in a laboratory. There is another whole discussion over background arsenic levels exceeding those threshold numbers in non-golf or non-agricultural lands.

The bottom line is that we need to know if our use of a legal, EPA-approved pesticide is potentially causing a problem of human health concern. EPA will weigh in on the issue soon enough as MSMA is currently under review by the agency.

In the meantime do yourself and your golf club a favor and explore your weed-control programs to see if there are any other products you can use to control your weed problems. Consider changing your pre-emergent herbicide strategies to require less post-emergent control. Do like some clubs and initiate a daily weed hunt where each employee mechanically removes 10 weeds a day. A simple thing like that can add up in savings in the chemical budget and also help the environment.

Even if more data and testing proves the "arsenic and old lace" poison syndrome is incorrect, regulators and politicians may not be able to defend a scientific position, but will have to resort to a political decision to appease the emotional concerns of the public. It happened in the wood-preserve industry. It can happen to the green industry as well.

You can help by calculating how much MSMA you currently use from your pesticide-spraying records and sharing that information with the FGCSA. See your chapter's external vice president for a copy of a confidential survey on MSMA use and send me your information, so researchers and regulators can get a real world handle on the issue.

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"Faith enables, doctrine inhibits. In the true American grain, we are simply casting off that which has failed us. Faithless Europe meanders, while faithful Islam crumbles. We have gained an almost miraculous middle ground. A society that transcends its religious differences without losing its faith is invincible."

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"At present, we are like a police department that ventures out of the station house every four or five years to combat crime for a day. Then, after a bath of rhetoric about no quarter for offenders, we go back inside and shut the door until the criminals again do something so heinous we have to put down our coffee and doughnuts and go back to work."

★

"Our great strengths are

wealth and raw power. When we fail to bring those strengths to bear, we contribute to our own defeat. For a superpower to think small - which has been our habit across the last decade, at least - is self-defeating folly. Our response to terrorist acts should make the world gasp."

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"Although tactics may be similar, strategies for dealing with practical versus apocalyptic terrorists can differ widely. Practical terrorists may have legitimate grievances that deserve consideration, although their methods cannot be tolerated. Apocalyptic terrorists, no matter their rhetoric, seek your destruction and must be killed to the last man. The apt metaphor is cancer - you cannot hope for success if you only cut out part of the tumor. For the apocalyptic terrorist, evading your efforts can easily be turned into a public triumph. Our bloodiest successes will create far fewer ter-

rorists and sympathizers than our best-intentioned failures."

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"Never listen to those who warn that ferocity on our part reduces us to the level of the terrorist. That is the argument of the campus, not of the battlefield, and it insults America's service members and the American people."

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"Any society that starves education is a loser. Cultures that do not see inherent value in education are losers. A culture that cannot produce a single world-class university is not going to conquer the world in any sphere. America's universities are triumphant. Once beyond the silly debates (or monologues) in the liberal arts faculties, our knowledge industry has no precedent or peer. Even Europe's most famous universities, on the Rhine or the Seine, are rotting and overcrowded. We attract the best faculty, the best researchers,

and the best student minds from the entire world. This is not a trend subject to reversal; rather, it is self-reinforcing."

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"Perhaps truest of all our cliches is that 'ignorance is bliss.' Men and women do not want to know. They may be pleased to learn of the misfortunes of their neighbor - confessional television shows have their roots in tribal whispers - but they do not want to know that their way of life, of belief, of organizing, learning, producing, and fighting is a noncompetitive bust. The greatest impact of this information age is that it makes the global masses aware of their inadequacy."

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"We are entering a new American century in which we will become still wealthier, culturally more lethal, and increasingly powerful. We will excite hatreds without precedent."