

## Re: Arsenic and cattle

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*Source:* <http://sci.tech-archive.net/Archive/sci.chem/2006-02/msg00211.html>

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- *From:* [xxx@xxxxxx](mailto:xxx@xxxxxx) (Octa Ex)
  - *Date:* Fri, 17 Feb 2006 04:34:14 GMT
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My Textbook on Nutrition certainly mentions arsenic as essential in humans, goats, rats and chickens. It has something to do with taurine metabolism, and active molecules are arsenocholine or arsenobetaine. Goats with a deficiency have mitochondrial membrane rupture in the myocardium. Still that only suggests that other animals may need arsenic in their diet.

On Tue, 14 Feb 2006 20:57:02 -0700, "N:dlzc D:aol T:com \(\dlzc\)" <N:dlzc1 D:cox T:net@xxxxxxxxxxx> etched in cyberspace:

I had made an unsupported statement about a year and a half ago that cattle required a small amount of arsenic in their diets to survive. I was asked for any sort of literature support and found very little at the time.

<http://www.ead.anl.gov/pub/doc/arsenic.pdf>

"Depending on the amount ingested, arsenic can be beneficial (animal studies suggest that low levels of arsenic in the diet are essential) or adverse (high levels can be toxic)."

<http://horse.purinamills.com/bulletins/poison/lamenessinducing.html>

"The toxic effects of selenium in ruminants varies, depending on the amount and rate of its absorption, the individual animal's susceptibility, the type of selenium present in the plant, and the interaction of selenium with other elements, such as sulfur, arsenic, or copper, in the diet. These minerals, and possibly others, competitively interfere with selenium absorption by ruminants. If this also occurs in horses, adequate amounts of these minerals in their diet may help reduce selenium poisoning for them, although currently this hasn't been demonstrated."

Still no real pointers to peer reviewed literature... but, if you have healthy cattle, you have some arsenic. This is beef, milk,

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and ground or surface water near where they "eliminate". And  
arsenic is not limited to cattle...

David A. Smith

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