

Microchips, Cancer, and Animal Identification

by Mary Zaroni

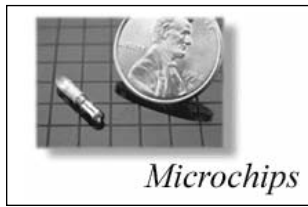


Photo courtesy of World Small Animal Veterinary Association

Do microchips cause cancer? We don't yet have enough information to be sure. However, several publications by respected scientists demonstrate that microchips have been associated with cancerous tumors.

An unexpected number of tumors have been found at the sites of microchips implanted in laboratory rodents. More research is needed to determine whether the microchips definitely cause such cancers.

What does this discussion have to do with livestock? Microchips are one of the leading recommended technologies for use in the National Animal Identification System (NAIS). Specifically, microchips are **the only** recommended form of identification for horses in NAIS. Microchips are not recommended for cattle; rather, radio-frequency identification (RFID) eartags are recommended for cattle in NAIS. Microchips and RFID tags are the same technology in different formats. Microchips are radio-frequency devices encased in glass capsules to be inserted under the skin of an animal or person. The eartags are the same type of radio-frequency device encased in a round plastic stud.

The issue of microchips possibly causing cancer gained prominence because of efforts to market microchips for use in people. The parent company Applied Digital Solutions, Inc. originally owned both the animal-microchip companies Digital Angel (pet microchips) and Destron Fearing (livestock chips/tags), as well as the people-microchip company called VeriChip.

In 2004 VeriChip obtained approval from the Food and Drug Administration for use of microchips to identify people. VeriChip aggressively marketed the chips by using the "fear factor" – what if you showed up in an emergency room with absolutely no ID and unconscious? What if your Alzheimer's-stricken grandmother wanders away from home? Still, there were few takers – at the maximum, VeriChip chips may have been implanted in perhaps 300 people in the U.S. and about 2,000 people worldwide. VeriChip then tried "giving away" chips and scanners to some hospital emergency rooms to promote chip use.

The same strategy has worked well for pet-chip company Digital Angel – after aggressive consumer advertising failed to increase chip use in pets in the 1990s and early 2000s, Digital Angel started "giving away" chips and scanners to animal shelters, many of which now routinely chip all pets offered for adoption. Even by "giving away" chips, chip companies can still make money, because every chipped animal or person becomes a captive future consumer – the companies charge an annual fee for storing the personal information accessed through the chip. If you don't pay up, your information gets deleted and your (or your pet's) chip becomes useless.

VeriChip's business was always a money-loser, but its real death-spiral began in September 2007, when Associated Press reporter Todd Lewan published a long investigative article revealing the numerous scientific papers on chip-induced cancers in mice, rats, and dogs. VeriChip claimed that it was "not aware" of any such studies relating chips to cancer – even though these studies had been published in well-known, prestigious scientific journals. FDA refused to reveal what studies it may have considered before approving the chips for human use, claiming such studies were "confidential business information" belonging to VeriChip. VeriChip's business model fell apart due to all the adverse publicity about chips and cancer.

The company could no longer even "give away" the chips and patients who had been chipped in pilot programs now had to be told that they may

have been exposed to a risk of cancer.

Applied Digital sold its controlling share of VeriChip (by then nearly worthless) to VeriChip CEO Scott Silverman. The Nasdaq stock market notified VeriChip that the company is in danger of being de-listed because its stock has consistently traded below the \$1.00 per share minimum for listing. As of late February 2009, VeriChip stock was trading at 30 cents a share.

What were the scientific studies that sunk the VeriChip ship? Six of the papers discussed the occurrence of cancerous tumors in mice and rats, often encasing or attached to the animals' ID microchips. Microchips have been used as a form of ID for lab animals since the early 1990s. In the six studies at issue here, microchips were not the original subject of the experiments. Rather, scientists using the rodents for other purposes noticed by chance that a number of the animals, ranging from 0.8% to 10.2% of those involved in the studies, had developed the microchip-associated tumors. In most cases the animals did not develop the tumors until a considerable period of exposure to the microchips, with the tumors developing in the later half of the animal's expected lifespan.

Some of the rodents were being deliberately exposed to toxic or carcinogenic substances in the main experiments. However, these tumors at or near sites of implanted RFID chips also appeared in control groups not exposed to toxins/carcinogens, and appeared at about equal rates across different groups of rodents being fed low, medium, or high amounts of toxic/carcinogenic substances. Therefore, the researchers concluded that these tumors were likely related to the microchips, rather than to the toxic/carcinogenic substances that were the intended subjects of the studies.

Two other published articles dealt with the occurrence of tumors around or attached to microchips in dogs. In 2003, a liposarcoma was removed from a microchip site on an 11-year-old mixed breed dog. The microchip was found completely embedded in the tumor. In 2004, a fibrosarcoma attached to a microchip was removed from a 9-year-old bulldog. In this case, researchers noted that the dog had also received several rabies vaccinations at the same site; therefore, they were unsure whether the microchip or the vaccinations were the primary cause of the tumor. In both of these cases, the tumors were malignant, fast-growing, and life-threatening types of cancers.

It has long been known that any type of foreign body can cause cancerous growths in humans and animals. Even medical devices such as pacemakers and orthopedic implants, in rare instances, have been associated with cancers. In addition, the type of electromagnetic radiation produced by scanning microchips has often been associated with cancers.

In a similar context, the scientific literature demonstrates increasing concern about a possible relationship between cancer and the radio-frequency electromagnetic fields emitted by cell phones. Thus, not only microchips, but also the radio-frequency tags used as part of NAIS, need much additional study before their safety could be honestly assured.

The studies about rodents and dogs developing microchip-related cancers essentially have ended VeriChip's human-chipping business. So why are microchips and RFID continuing to be widely used for pet animals? And why is USDA continuing to promote microchips and RFID for livestock and horses in NAIS? Part of the reason is that Digital Angel/Destron Fearing had been marketing animal chipping and RFID tagging long before VeriChip tried to promote people-chipping. Certainly another reason is that pet and animal health issues understandably receive less intense scrutiny than matters of human health.

But now that we have very strong indications that microchips and/or radio frequency electromagnetic fields may cause cancer, it's time to push back against the marketing efforts of Digital Angel/Destron Fearing. Particularly in the case of horses, which can live for some 30 years and are among the most valuable of livestock, the NAIS recommendation of microchipping may create considerable possibility of harm. Even the most ardent proponents of NAIS should be able to see, from the scientific evidence, that at present microchips and RFID tags must be considered a cancer risk. Until complete and accurate safety studies can be carried out (which would take years), traditional non-electronic forms of identification should be not only accepted, but recommended in preference to microchips and RFID.

The Dutch organization Group Nijhof opposes the microchipping of horses and its website presents many photographs of inflammation, migration, infection, and similar problems caused by microchips – see:

www.invisio.nl/antichip/

(Then click on "Foto's" (text in Dutch)).

For a very complete summary and analysis of the scientific literature on microchips and cancer, see Katharine Albrecht, Ed.D., "Microchip Induced Tumors in Laboratory Rodents and Dogs: A Review of the Literature 1990-2006," available at www.antichips.com/cancer.

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NY Sen. Aubertine's Bill: MPC & Casein "Not Dairy"

New York State Senator Darrel J. Aubertine (D), chairman of the state Senate Agriculture Committee has introduced a bill (S2365) on the use of proteins such as milk protein concentrates (MPC) and casein.

The bill, if passed into law would prohibit any product enhanced with MPCs, caseins, or caseinates from being labeled as dairy.

Consumers would benefit, since MPCs have never been tested for safety and perhaps, as important, no study has ever been conducted on the protein availability of products made with these products.

Farmers would, of course, benefit in that more milk would be used in manufacturing a dairy product. Theoretically, use of more milk in dairy products would raise farm milk price.

Into the picture steps New York Farm Bureau, which bills itself as "a non-governmental, volunteer organization financed and controlled by families for the purpose of solving economic and public policy issues challenging the agriculture industry."

NY Farm Bureau is circulating a memo which says, "New York Farm Bureau respectfully requests your opposition to this legislation. While well-inten-

tioned, the legislation contains several technical problems that would cause harm to the dairy industry."

Apparently, the largest technical problem, accord to Farm Bureau, is "this legislation is contrary to existing federal standards of identity for dairy products, and lacks technical clarity at the present moment in time."

The only mention of protein in the Code of Federal Regulations on cheese mentions. "Proteins from the whey." The only mention of casein relates to Sap sago cheese and the precipitation of caseins naturally occurring in the milk.

Farm Bureau was started, years ago, by the Broome County, NY Chamber of Commerce and has tended to take the corporate position on virtually every issue. Darrel Aubertine is a former dairy farmer who is well acquainted with the struggle of dairy farmers.

Ironically, Senator Aubertine's bill is merely reblazing a path he's already cleared. Similar legislation was passed before by both the state Assembly and Senate unanimously. But pressures from Dairylea Co-op president Clyde Rutherford convinced then governor George Pataki to veto it.