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**RICE PROTEIN PURVEYOR AXIOM FOODS
REVEALS REALITY OF HEAVY METALS IN FOOD
Metals Naturally Occur in Healthy Soil
What is Considered Toxic?**

(February 6, 2014, Los Angeles, CA) – [Axiom Foods](#), whose Oryzatein® enzyme-extracted, whole grain sprouted brown rice protein is supplied to food manufacturers throughout the U.S., Europe and other countries, is embarking on a campaign to educate consumers about the reality of heavy metals in plant foods. Since the sharp rise of vegetarianism and veganism in the U.S. ([Google Trends](#) reported a doubling of veganism since 2010), those whose diets consist mostly of vegetables have a naturally higher heavy metal contribution to their bodies* than those who ingest an animal-based diet. An ethically-based food ingredient provider, Axiom is on a mission to make consumers aware of all the aspects of how and why metals naturally occur in vegetables that grow in healthy soil, so they can make informed decisions about their intake and understand *if and when* those levels are toxic to the body.

The problem with any metals, beneficial or not, is when the substance reaches toxic levels in the body. The question is: what is considered to be toxic and what testing methods are certified to determine toxicity? What happens when test results are reported as [parts per million](#) vs parts per billion?

Here is a list of facts:

- Heavy metals, such as arsenic, cadmium and lead are found in all plants that grow in healthy soil because they are natural constituents of the Earth's crust and have existed on earth since its formation (Agency for Toxic Substances and Disease Registry, 2011)
- Some metals, such as iron, copper, chromium, cobalt, manganese, molybdenum, selenium, and zinc are required by the human body in trace amounts as essential nutrients. Naturally, any metal in the soil or surrounding bodies of water will leech into any plants we consume. This environmental exposure impacts both organic and conventionally grown crops ([European Food Safety Authority](#), 2012, "Metals as Contaminants in Food.")
- We consume metals in common plant foods daily, from spinach to spices. Any metal, including those that are essential to the body to function can cause toxicity if introduced at high levels (Total Diet Study Statistics on Element Results, 2007, Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration).
- According to the [Journal of the American Medical Association](#), vegans are shown to live longer.

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- Just because a food contains a certain level of metal does not mean the body will absorb or retain it; [The Agency for Toxic Substances and Disease Registry](#) states, for example, only 2-6% of ingested cadmium is absorbed.
- Some plants that grow in water, such as rice, spinach and asparagus, are often targeted as [contaminated](#) by heavy metals because some crops have been found to be in polluted areas of the world. This is well known by efficacious growers and manufacturers and as such they consciously choose pristine fields and regularly test in specifically certified laboratories to ensure levels are below what is considered to be toxic. In China, for example, one polluted field cited in the news recently was 3000 miles away from where Axiom has sourced rice on the Himalayan border of Tibet.
- Testing for contamination in food products needs to be done in accredited laboratories in the United States, where standards for calibration exist and highly-educated practitioners test with accepted scientific methodologies. Test results can vary vastly based on seemingly insignificant factors. In April, 2013, Dr. Tongesayi of Monmouth University, released a study showing he'd found levels of metal that exceeded FDA safety limits. It turned out he recalled his tests because his [instruments were not calibrated](#).
- The benefits for plant-based protein outweigh the negatives. Approximately 50 million people in the US are allergic to or intolerant to dairy and 1 in 133 Americans suffer from allergies to wheat gluten, according to the [National Foundation of Celiac Awareness](#); many plant-based proteins are allergen-friendly, aside from soy protein.
- Standards for levels of metals are set by World Health Organization (W.H.O.), The European Union, The Canadian Natural Health Products Directorate, the U.S. FDA (tolerable daily intake), US Pharmacopeia, U.S. EPA (drinking water) and California's [Proposition 65](#). All companies that sell products with any levels of metals must be tested by accredited laboratories. These tests are measured in "parts per million" (ppm); when numbers are reported as "parts per billion" (ppb) they appear exaggeratedly large and raise unnecessary alarm to the consumer.
- The FDA has yet to set levels for heavy metals in rice, but has used Axiom Food's technology as the standard for responsible sourcing, fractioning and manufacturing of rice protein. Axiom's Oryzatein® is in the process of becoming the first GRAS certified rice protein, after which Axiom will pursue the FCC/USP monograph to be the standard for the entire industry. Oryzatein® was also used in the first [double blind clinical trial](#) that showed it equals animal-based whey in building and repairing muscle.
- Errors can occur in testing and managing levels so close to the detection limit that it can create great variances, even up to 50%. The amounts are similar to taking a cube of sugar, chopping it into 1,000 pieces, taking one of those pieces and then chopping it into 1,000 more pieces, and then testing that final piece.
- How much one ingests is not indicative of how much is retained as the body is a natural filter, dependent upon health factors and level of nutrition, as many foods act as natural antioxidants, helping further filter heavy metals.

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“Because we provide whole grain sprouted brown rice protein to food manufacturers worldwide,” said Axiom CEO, David Janow, “certifying bodies such as the FDA and USDA watch what we do very closely and come to us for intelligence on setting standards. Testing our products in the most well-respected and, most importantly, *certified* laboratories, is a continuous part of our daily process. Proper testing will make the difference between something that appears to be safe or toxic. We provide our test results to our customers. We source from the most pristine fields in the world and avoid polluted areas. As makers of human food, we are in a highly responsible position and work as closely with Mother Nature as she will allow. At this time in history, avoiding pollution of any kind is no easy task, but it’s something we pursue diligently as part of our standards and practices.”

Here is a table that shows metals found in common foods:

Max. Amounts of Lead, Arsenic, Cadmium found in commonly consumed Foods**			
	Lead	Arsenic	Cadmium
Spinach, fresh, boiled (180g) 1 cup	11.5 mcg	7.7 mcg	94.3 mcg
Cucumber, raw (52g) ½ cup	1.6 mcg	1.3 mcg	0.4 mcg
Strawberries, raw (72g) ½ cup	1.2 mcg	0.8 mcg	4.7 mcg
Avocado, raw (75g) ½ cup	3.0 mcg	2.8 mcg	8.0 mcg
Collards, fresh, boiled (190g) 1 cup	25.8 mcg	2.7 mcg	23.2 mcg
Asparagus, fresh, boiled (180g) 1 cup	2.5 mcg	--	25.0 mcg
Iceberg lettuce, raw (72g) 1 cup	0.4 mcg	1.0 mcg	23.3 mcg
White potato baked w/ skin (138g) 1 cup	2.8 mcg	5.8 mcg	15.5 mcg
Broccoli, fresh, boiled (156g) 1 cup	2.2 mcg	--	4.7 mcg

**Based on Total Diet Study Statistics on Element Results. 2007, Center for Food Safety and Applied Nutrition, US Food and Drug Administration

Axiom Foods is the most innovative source for allergen-friendly, whole grain brown rice ingredients and known for their natural and proprietary methodologies for extracting fractions of other plant proteins such as pea, sacha inchi and others. Since 2005, the California-based company has maximized the potential of whole grain brown rice in all its forms. Their signature Oryzatein® is the only sprouted brown rice protein of its kind. Axiom continues to widen the possibilities of the world’s third largest plant crop into healthful products on which humans thrive.

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*Krajcovicova et al. Cadmium Blood Concentrations in Relation to Nutrition. Cent Eur J Publ Health. 2006; 14(3): 126-129