DRINKING WATER AND WATER TREATMENT SCAMS

James E. Hairston*, Donn Rodekohr, Eve Brantley and Lori Bice

Professor, Agricultural Program Associates I and II, and Undergraduate Student Assistant; Agronomy and Soils Department; Auburn University
OBJECTIVE

To make the audience more aware of the various types of scams associated with drinking water, how to recognize a potential scam and how to deal with scams.
INTRODUCTION

• What is a scam?
• Who is susceptible to being scammed?
COMMON DRINKING WATER SCAMS

- Bottled water scams
- Health quackery scams
- Water testing scams
- Water treatment scams
- Water supply scams
UNDERSTANDING AND RECOGNIZING SCAMS

- *Why scams work*
- *Understanding science*
- *Basic characteristics of scams*
DEALING WITH SCAMS

- Reporting scams
- Learning more about scams
Introduction

• What is a scam?
  – Purpose
  – Trickery
  – Fraudulent activity

• Who is susceptible to being scammed?
  – Everyone
  – Science illiterates are easier prey
Bottled Water Scams

Bottled Water Is Better Than Tap Water

- When is bottled water a scam?
- Does bottled water have advantages?
- Does tap water have advantages?
- What do independent studies reveal?
Bottled Water Scams

Water to Enhance Sports Performance

- Most sports drinks are not bottled water.
- Super-oxygenated bottled water
- What have university studies revealed?
Bottled Water Scams

The Facts on Oxygenated Bottled Water

- Pressure will add more oxygen to water
- Oxygen dissipates fast once bottle is opened
- Digestive system not effective for oxygen uptake
- Does not really work unless you have gills
- Taking deep breaths more effective
Health Quackery Scams

Highly Oxygenated Water

- Stabilized oxygenated water
- Extra oxygen bonded to water molecules
- Oxygen entrapped in microencapsulated water clusters
- Vitamin O (electrically activated oxygen in water)
- Nascent (ionic) oxygen in water
Health Quackery Scams

Claims About Highly Oxygenated Water

– Shrinks water molecules to hydrate your body faster
– Promotes better health from cell waste removal
– Retards aging
– Boosts physical energy
– Many other health benefits
Real Facts About Oxygenated Water Quackery

- Oxygen does not travel freely in blood
- Diatomic oxygen is toxic to living cells
- Ionic forms of oxygen are even more deadly
- Ionized forms of oxygen have very short life
Health Quackery Scams

Structure-Altered (Clustered) Water Scams

– What are water clusters?
– Two categories of cluster quackery:
  • More and bigger clusters are beneficial
  • Smaller and fewer clusters are beneficial
Health Quackery Scams

Healing Forms of Clustered Water Found in Nature

- Polymer water from isolated mountain springs
- Hydride ion water from high altitude glaciers
- The real story
Health Quackery Scams

Clustering Water with Magnetism

- Healing benefits of magnetism
- Permanent magnets and electromagnets
- Liquid crystalline water
- Hexagonal polygons with memory
- The real story
Health Quackery Scams

Changing Water Structure with Electrical Energy
- Micro-clustered water from electrolysis is the best
- Alkaline, ionic or ionized water to treat acidosis
- Dodecahydronal (12-plane) clusters that kill viruses
- H₃O.OH lowers cell entropy and kills cancer cells
- The real story
Health Quackery Scams

Changing Water Structure with Light Energy

- Adds molecular vibration energy
- Has special healing power
- Controls all addictive behavior
- The real story

![Image of water treatment system]
Health Quackery Scams

Structured Water Produced by Catalytic Processes

- Supercharged water with mystical properties
- A little bit goes a long way (homeopathy)
- The real story
Health Quackery Scams

Sound Waves and Electrolysis to Un-cluster Water

- Large clusters impede water flow into and out of cells
- Small clusters improve cell hydration
- Small clusters better at flushing waste
- The real story
Health Quackery Scams

**Light Wave Energy Water**

- Special minerals carry light energy signals
- 26 formulations to trigger different responses
- The real story
Water Testing Scams

Three Types:

- On-site demonstration tricks
- Fake lab test results
- Misinterpretation of laboratory results
Water Treatment Scams

Two Categories:

- Consumers purchasing treatment devices not needed
- Consumers purchasing treatment devices that do not work
Water Treatment Scams

Treatment Devices Not Needed

– Consumer Exploitation
– Consumers know little about water treatment
– Chemical scare tactics are effective
– Consumer Confidence Reports help filter sales
– Installed treatment systems can cause problems
– Companies offer maintenance agreements
Water Treatment Scams

Treatment Devices That do not Work

- Hard Water and Scale Treatment
- Magnetic and electromagnetic water conditioners
- Electronic and electrolytic water conditioners
- Depressurizing units for scale control
- Catalytic devices for scale control
- Oscillations (vibrations) to prevent scaling
- The real story
Water Treatment Scams

Treatment Devices That do not Work

- Light Related Treatment Devices
- Far infrared (FIR) nonsense
- Photonic ionization
- The real story
Water Treatment Scams

**Treatment Devices That do not Work**

Bacteriostatic Filters

- What are these?
- Why are they registered with EPA?
- Do they really work?
Water Treatment Scams

Treatment Devices That do not Work

REDOX Magic

– What are these devices?
– Do they really work?
Water Supply Scam

- Water Location Scams
- Well Drilling Scams
- Rain Making Scams
Why Scams Work

- Human nervous system is designed primarily for survival, not to assure truth, logic and reason.
Understanding And Recognizing Scams

Why Scams Work

- Human Survival
- Humans are sometimes prone to be superstitious and use irrational thinking.
Understanding And Recognizing Scams

Why Scams Work

– Human Survival

– Human Irrationality

– Humans are frequently gullible to beliefs in telepathy, astrology, and a wide array of paranormal and supernatural phenomena.

• Science education ≠ logical thinking
• Science education ≠ critical thinking
Understanding And Recognizing Scams

Why Scams Work

- Human Survival
- Human Irrationality
- Human Gullibility

- A high percentage of the general public is scientifically illiterate and cannot tell the difference in real science and pseudo-science.
Understanding And Recognizing Scams

Understanding Science

– What is pseudo-science?
– Where does pseudo-science come from?
– How can you tell fake science from real science?

Identify the pseudo scientist:

a. A
b. B
c. Both
d. Neither
e. All of the above
f. Some of the above
Understanding And Recognizing Scams

Basic Characteristics of Scams

- Sound too good to be true
- Not based on clear proven scientific principles
- Have no peer-reviewed reputable support literature
- Have testimonials from crackpot pseudo-scientists
- Have fake testimonials from satisfied customers
- Pressure to purchase or invest immediately
Dealing With Scams

Where and How to Report Scams

– Local and state officials
– Federal authorities
– Internet sites
Reporting Scams

- **Any Type of Scam**
  - Local sheriff
  - State attorney general

- **False Health and Product Labeling**
  - U.S. Food and Drug Administration (FDA)

- **Fraudulent Mail**
  - U.S. Postal Service

- **Fraudulent Marketing**
  - U.S. Federal Trade Commission (FTC)
Reporting Scams

Filing Complaints on the Internet

– U.S. FDA
http://www.fda.gov/medwatch

– U.S. Postal Service
http://www.usps.com/postalinspectors/fraud/MailFraudComplaint.htm

– U.S. Federal Trade Commission
http://www.consumer.gov/
Dealing With Scams

Where To Get More Information

– Local and state sources
– Federal sources
– Other sources
Dealing With Scams

Where To Get More Information

– Local and state sources
  • Governmental offices that deal with consumer protection
  • County Cooperative Extension Offices
  • Consumer Protection Unit of state Attorney General’s Office
Where To Get More Information

– Federal sources

• Federal Citizen Information Center (FCIC) http://www.pueblo.gsa.gov

Dealing With Scams

Where To Get More Information

– Other sources

• The Consumer Fraud Watch Network
  http://www.consumersgroup.com/crimewatch/

• Net Scams Online Protection
  http://www.netscams.com/scams.jsp

• National Fraud Information Center
  http://www.fraud.org/

• Legal information on scams and fraud
  http://cobrands.public.findlaw.com
Some valid water treatment methods
- Water softeners
- Membrane systems
  - Reverse osmosis
  - Electro-dialysis
- Water filters
  - Particulate
  - Adsorption
- Distillation
- Desalination
- Centrifugal units
DRINKING WATER AND WATER TREATMENT SCAMS

Questions?
Recommendations?
War Stories?