

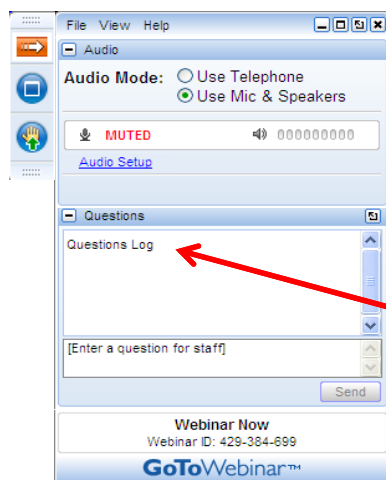
Effective Marketing & Communication Strategies for High Quality Biosolids

Wednesday April 26, 2017

1:00 – 3:00 p.m. EDT



How to Participate Today



- **Audio Modes**
 - Listen using Mic & Speakers
 - Or, select “Use Telephone” and dial the conference (please remember long distance phone charges apply).
- **Submit your questions using the Questions pane.**
- **A recording will be available for replay shortly after this web seminar.**



Today's Moderator



Trudy Johnston
President,
Material Matters, Inc.



WE&RF HQB from Wastewater Project (NTRY7R15)



Principal Investigator:
Trudy Johnston



Co-Principal Investigator:
Chris Peot



Research Partners:



Project Advisors

- Jim Smith, *formally with USEPA National Risk Management Research Lab*
- Yen-Chih Chen, *PSU*
- Ralph Eschborn, *AECOM*



Special thanks to our funders and supporters!



CALIFORNIA ASSOCIATION OF SANITATION AGENCIES
ENSURING CLEAN WATER FOR CALIFORNIA



What will this webinar cover?



The Past, Present, and Future of Organic Residuals Marketing in the US – the Nexus of Regulations and Marketplace

Ron Alexander, *R. Alexander Associates, Inc.*



King County's Loop – a Marketing Success

Kate Kurtz, *King County (WA)*



Update on WE&RF's High Quality Biosolids Project: *Developing a Market Template for Use of High Quality Biosolids Products*

Lisa Boudeman, *Material Matters, Inc.*



Past Webinars of Interest

Available on www.wef.org

- Promoting Your Product: Marketing Tips and Techniques to Stimulate Biosolids Sales and Distribution

Available on www.werf.org

- High Quality Biosolids and the Power of Social Media (December 15, 2016)
- Assessment of High Quality Biosolids-Derived Products (February 22, 2017)



The Past, Present & Future of Organic Residuals Marketing in the US



Presented by:

Ron Alexander, President
R. Alexander Associates, Inc.
April 26, 2017



Topics

- Organic feedstocks and competitors
- Organic management processing trends
- Current processing and marketing trend



“Organic” Feedstock Volumes are Huge

FEEDSTOCKS	VOLUMES
MSW	251 Million tons – generated 86.6 Million tons – recovered
<i>Food</i>	<i>36.4 Million tons – generated</i> <i>1.7 Million tons – recovered</i>
<i>Yard Trimmings</i>	<i>34 Million tons – generated</i> <i>19.6 Million tons – recovered</i>
Biosolids	7.18 Million <u>dry</u> tons
Manure	66.4 Million <u>dry</u> tons (confined and unconfined)

MSW figures – 2012 data - USEPA
Biosolids figures – 2004 data – 2006 National Survey
Manure figures – 1997 data – 1997 Agricultural Statistics

**BIOSOLIDS HAS COMPETITION IN
THE MARKETPLACE**



Nitrogen-Rich Residuals



- Biosolids
 - Putrescible, odorous, stigmatized
 - Can produce attractive, functional products
 - CONCERN: Negative momentum growing



Nitrogen-Rich Residuals

- More states are banning food waste from the landfill or creating related policy
 - More going to composting and interest in digesting with biosolids
 - 'Dirty' feedstock is affecting product quality !!!!

(are other technical issues too)
- Tightening compost standards because of inert contamination *(biosolids compost is prettier / cleaner !!)*



Cow, Hog and Chicken Manure

- *Hopefully, more money will be spent in processing*
- *Raise value in order to ship farther and justify processing*



Carbon-Rich Residuals



INCLUDES

*Carbon – wood and brush,
-some non-recycleable
paper and cardboard*

*May be used in product development, with
biosolids (composting / soil blending), may
compete with application to land*



NATIONAL ORGANIC PROGRAM

Regulatory Text
(Updated May 14, 2009)



U.S. DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Room 4004-Sa, Ag Stop 0208
1400 Independence Avenue, SW
Washington, D.C. 20250
Phone: (202) 720-3252 • Fax: (202) 205-7808
www.ams.usda.gov/nop

*Allows use on certified organic crop
production*

*OMRI Listing on retail products
is becoming huge, aside from
growth in agriculture*

Biosolids are specifically disallowed

- *Manure, food, YW based products
are Listable*
- *Does this really mean anything to
biosolids usage?*



Popular Biosolids Mgt. Options / Technologies

- Land Application
- Composting
- Pelletization / Granulation & Drying
- Alkaline Stabilization

- Expansion of beneficial reuse
- Likely to continue to expand production of Class A products



Popular Biosolids Mgt. Options / Technologies

- Incineration - *Decrease*
- Landfilling
- Thermal Hydrolysis - *Expand*
- Nutrient Extraction
- Gasification / Pyrolysis



Product and Market Development Considerations

- **Advanced / Secondary processing technology**
- **Regulations** – make sales easier, nutrient related
- **Staffing costs** – *add'l needed for processing/marketing*
- **Volume of product produced**
- **Product characteristics** – drives product placement
- **Distance to market** – affect bulk density
- **Market demographics**

Overall and
add'l costs



New Processing Technologies

- **If go from Class B (or lower) to Class A**
 - Diversify off of ag land, into new markets
 - Improve transportability / distance
 - Affect N/P Ratio (?)

COMMITMENT IN PROGRAM IS EVERYTHING

-Organizations developing Class A / Secondary products must be committed to long-term operation, production of quality products

-Still a problem that many biosolids mgrs. don't take market development seriously!

- ***Land-based options or Not? (FUTURE?)***



Markets – Past, Current, Future

- **Agricultural (forestry, silviculture too)**

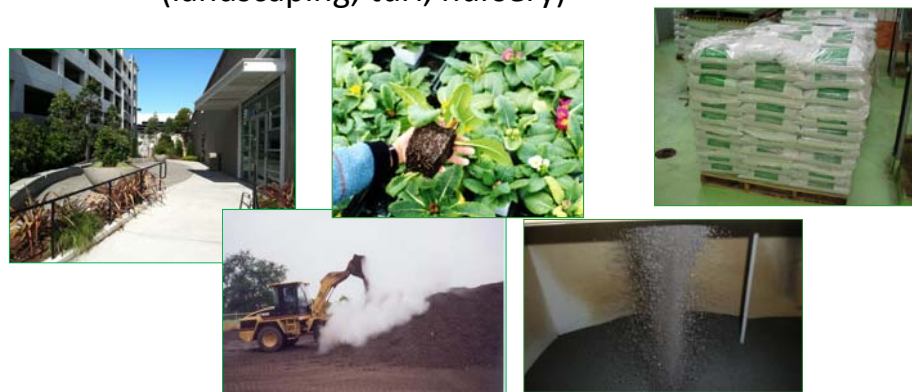


*-Dewatered, liquid, composted, dried/granulated, lime stabilized biosolids
-Future – biochar/pyrolyzed, extracted/concentrated nutrients*



Markets – Past, Current, Future

- **Horticulture – ornamental plants**
(landscaping, turf, nursery)



*-Composted, dried/granulated, lime stabilized, soil blended biosolids
-Future – biochar/pyrolyzed, extracted/concentrated nutrients*



Public Opinion and Communication is More Important Than Ever !



But are we emphasizing?



Markets – Past, Current, Future

- **Environmental – reclamation, erosion control / storm water mgt.**



- Various biosolids products can be used in revegetation applications, depending on economics and distance to site (people?)
- Use of compost in erosion control and storm water mgt. is expanding

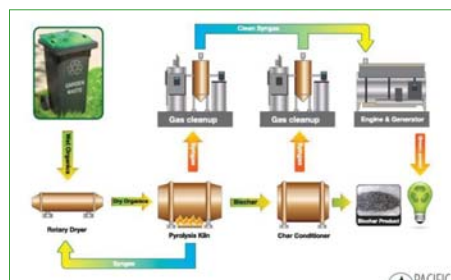


-Dewatered, composted, dried/granulated biosolids (liquid, lime stabilized)
 -Future – same, biochar/pyrolyzed (?)



Markets – Past, Current, Future

- **Energy – AD, thermal treatment** (combustion, gasification, pyrolysis)



- **Industrial? (Nutrients, other?)**
- **Other / Non Land-based ?** *Research is key!!*

Market and Product

Issues and Trends

Nutrient Extraction



- Need new sources of fertilizer
- Concentrate liquid and/or solids nutrients
 - Struvite (5-28-0)
 - Reverse osmosis
- N/P Ratio – limit manure and biosolids applications
- WE&RF Project.....



Huge interest, but costs are still difficult



Potential Fertilizer Products

Product	Expected Nutrient Content	Expected Commercial Product Form	Comparable Commercial Product(s) <small>(*all data expressed as TKN-P₂O₅-K₂O)</small>
Struvite	5-28-0 + 10% Mg	Dry, solid 1-3 mm	Diammonium Phosphate 18-46-0, Monoammonium Phosphate 11-48/52-0
Hydroxyapatite	40% Ca and 42% P	Dry, solid 1-3 mm	Triple superphosphate 0-46-0, 15% Ca
Vivianite	33% Fe and 28% P	Dry, solid <small>No commercial source/uniform size</small>	General Iron Compounds <small>No large-scale comparable product identified</small>
Phosphoric acid	0-62-0	Liquid	Phosphoric acids 0-30-0, 0-40/54-0, 0-76-0
Ammonium nitrate	18-0-0	Liquid	Nitrogen Solutions 26/32-0-0
Ammonium sulfate	21-0-0, 24% S 7-0-0, 9S <small>(6/9-0-0, 7/10S)</small>	Dry, solid Liquid	Ammonium sulfate 21-0-0, 24S 7-0-0, 9/10% S 6-0-0 (Ammonia aqua)



Soil Blending

- Biosolids (Class A) added to other 'soil' materials, blended to meet usage requirements
- Primarily usable in the landscape market (*retail?*)
- Non-proprietary technology, inexpensive infrastructure
- Newer management method, few implemented thus far
- Must invest in product development



More to Learn

Aging trials to evaluate product changes (improve versatility)





- Growth trials - various plants , including grass (indicator crops)

Biochar / Pyrolysis

- Cost is high / Commercialized?
 - In high population base areas?
 - Nutrient sensitive areas?
- Significantly reduces volume (and bulk density), more shippable

MARKETS ??



More Attention in Soil Health and Management

- Educating about importance is key to market expansion, using soil as environmental tool
- Manage environmental problems and feed the masses

- **MUST INVOLVE BIOSOLIDS IN MOVEMENT**

International Year of Soils
2015

(UN helped to promote issue)



for Food / Agricultural Sustainability



Soil Health Key Points



What's critical about soil health now?

1. World population is projected to increase from 7 billion in 2013 to more than 9 billion in 2050. To sustain this level of growth, food production will need to rise by 70 percent.
2. Between 1982–2007, 14 million acres of prime farmland in the U.S. were lost to development.
3. Improving soil health is key to long-term, sustainable agricultural production.



New national program to promote (USDA NRCS)



First State to Fund Program

California Healthy Soil Initiative

The term “healthy soils” refers to ensuring that our agricultural soils have adequate soil organic matter (SOM) or soil carbon content. Increasing the amount of SOM, from its current levels, in soils can provide multiple benefits. These benefits include (among others):

- **Source of nutrients for plants**
- **Water retention**
- **Contributes to the environmental fate of synthetic inputs**
- **Carbon sink**
- **Soil structure stability and reduced erosion**
- **At least a quarter of the world’s biodiversity lives in the soil**



Government policy in future?



Waste 2 Resources

June 2010

Building Healthy Soil

Building and maintaining healthy soil is critical to long-term productivity of the land, protecting the environment and promoting healthy communities. Sound management practices can improve soil condition, while poor ones may lead to continued degradation of our soil resources.

This focus sheet provides general information on healthy soil. It focuses on adopting best management practices that will build and maintain the health of our soil.

What is healthy soil? <<<

The term “soil health” refers to the condition of the soil. Healthy soil is productive with less effort. It has physical, chemical and biological properties that easily support healthy plants, humans and other animals, and maintain a healthy environment.

Landscape related program already exist...

- First program – *Soils for Salmon* - fully implemented by ordinance (storm water regulation)
- Protection of Bay water quality, species extinction



MORE INFORMATION

Soil Quality Concept:
<http://soils.usda.gov/soil/concepts/concepts.html>

Soils for Salmon – Building the Soil for Healthier Landscapes and Healthier Streams:
www.soilsforsalmon.org

Natural Ya
 to improv
 growing he
www.ecy.wa.gov/soil/4.html



Climate Change and Water Conservation

- Healthy soil / soil manipulation can help mitigate effects of climate change
- Changing temperature and precipitation patterns impacting ag production
- More violent weather
- **DROUGHT & FLOODS**



KNOW IT WILL HELP, MAKE SURE WE ARE NOT 'LOCKED OUT'



Water Conservation

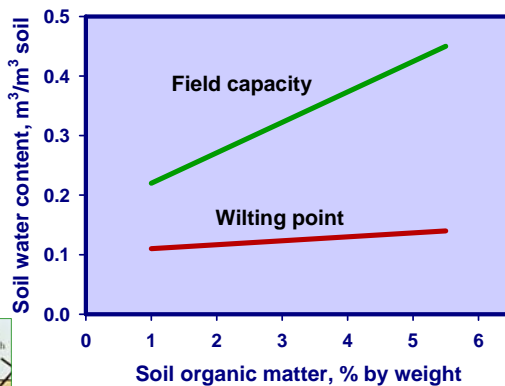


Has become a necessity to develop water conservation programs in several states, landscape and ag (not just west coast)

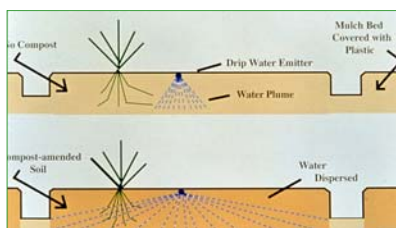


Water Usage Efficiencies

ATTRA – each increase of 1% OM can increase soil WHC by 16,500 gallons H₂O/A



OM seen as tool in water conservation



Tool in Managing Storm Water and Restoring Infiltration Capacity



National Trend in Green Landscaping and Building



-'Green' Building Initiatives
-Create environmentally resilient soils



Environmental Applications and Green Infrastructure

- Very popular, growing market
- Often creates higher value mixes
- Assisted by regional specifications requiring green infrastructural methods

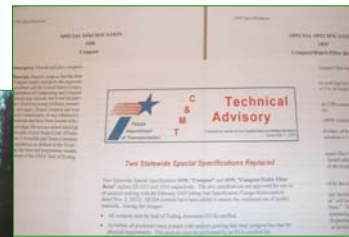


**MUST INVOLVE
BIOSOLIDS
(Stigma / Nutrients)**



Interest in DOT Usage

- Slow to develop market
- Less planting projects, concentrating on erosion control, re-vegetation, storm water management



Specification

- Large public & private construction projects
 - Must nurture and expand efforts for biosolids product usage
 - Educate public and private specifiers
 - Landscape architects and engineers
 - Patience, technical background will help
- Projects – landscape, turf, EC, storm water, reclamation, etc.



-Specific States and cities are better at this (few are great at it)



Product Registration

- “Legal” State registration of products is expanding
 - Register with State Department’s of Agriculture as soil amendment and/or fertilizer
 - Greater voice in regulatory venue
 - ‘Stay legal’, raise value
- 48 states have fertilizer laws (nutrient claims), 38 have soil amendment laws
 - *Some states exempt or have ignored biosolids*
 - *More states requiring biosolids registration (even with dewatered biosolids)*



Re-Focus on Education

(Branding, Marketing)



WEF and EPA educational efforts?



Marketplace Threats / Concerns

- Overzealous phosphorous regulations (16 states, primarily turf related)
 - Most biosolids products have low WEP levels
 - Most states do not exempt biosolids (or treat them differently)
 - *Biosolids N regulated by availability, but not P. Why?*
- Food Safety Modernization Act
 - Manure pathogen reduction, days to harvest
 - Causing concerns around biosolids usage in Florida, California, other
(Could be just an excuse for produce processors not to allow)



Social Media

- Face-Book
 - Blogs
 - Twitter – social networking
 - Hashtags
 - Instagram - post pictures
 - LinkedIn – professional networking
- Greatest tool, or method for detractors to slander biosolids*
- We're not using it well yet
- Do we even have a message?



Product and Marketing

- **HAVE TO GET BACK TO PRODUCT DEVELOPMENT, MARKETING, EDUCATION**



Focus on interacting directly with the marketplace



Marketing Program Components

- **Sales Focus**
 - Customer size, geographic area of concentration
- **Pricing Policies (base price, discounts)**
- **Scheduling of Sales/Marketing Efforts**
 - Seasonal concentration of sales efforts
 - Timing of advertising/promotional activities
- **Sales Tools**
 - Pitch pages, sales programs, product literature
- **Lead Generation**
- **Associated Services**
- **Procedures for Contact Management (ranking, follow up)**
- **Sales Goals**

*Have to work at it.....PLAN
(More sophisticated plan)*



Product / Marketing Principles

REMEMBER UNIQUE ISSUES !!

- **Supply and demand curve – rule breaker**
 - Market vs. waste management driven
- **Public and private facilities competing**
- **Product quality/process control – technical production issues, biology, odor**
- **Stigmatized**
- **Market expansion – replace other products, expand soil amendment uses, create new applications/products**

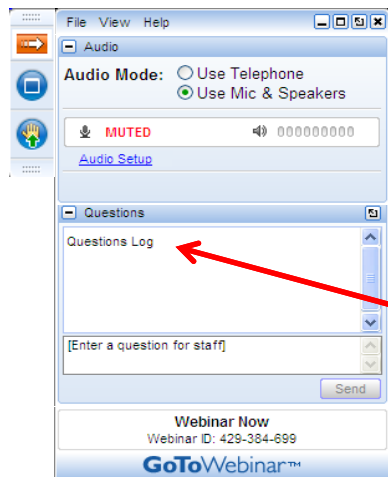


Conclusions

- Competition for land will continue to grow, with more organics being recycled (environmental law)
 - Relates to all biosolids products, not just land application
- Concerns about excess nutrient (P) addition will continue
 - Must address with science, get involved with state regulation (better manage situation)
- Have to get back to EDUCATING – ‘losing ground’
 - Message (?), affect of growing ‘organics’ movement (?)
- Must diversity markets and product
 - Consider non-land based options (any?)
 - Nutrient products, shipping issues
- Invest in sales / marketing, staffing and staff training
- STAY ENGAGED in market, to keep up with market trends
- Political commitment is key



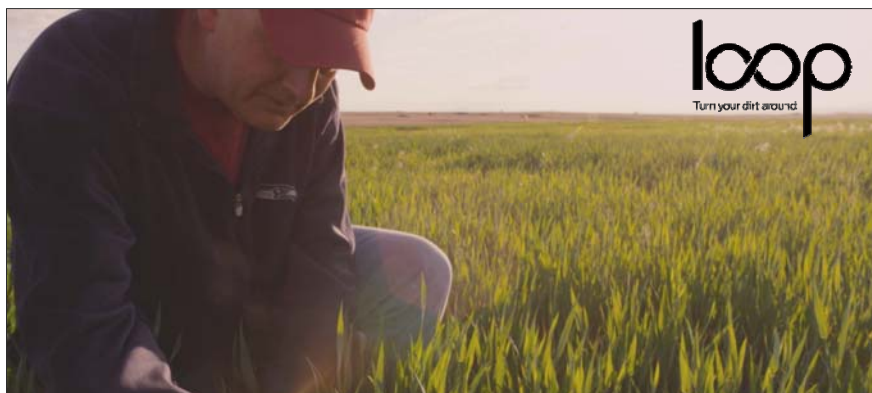
Questions?



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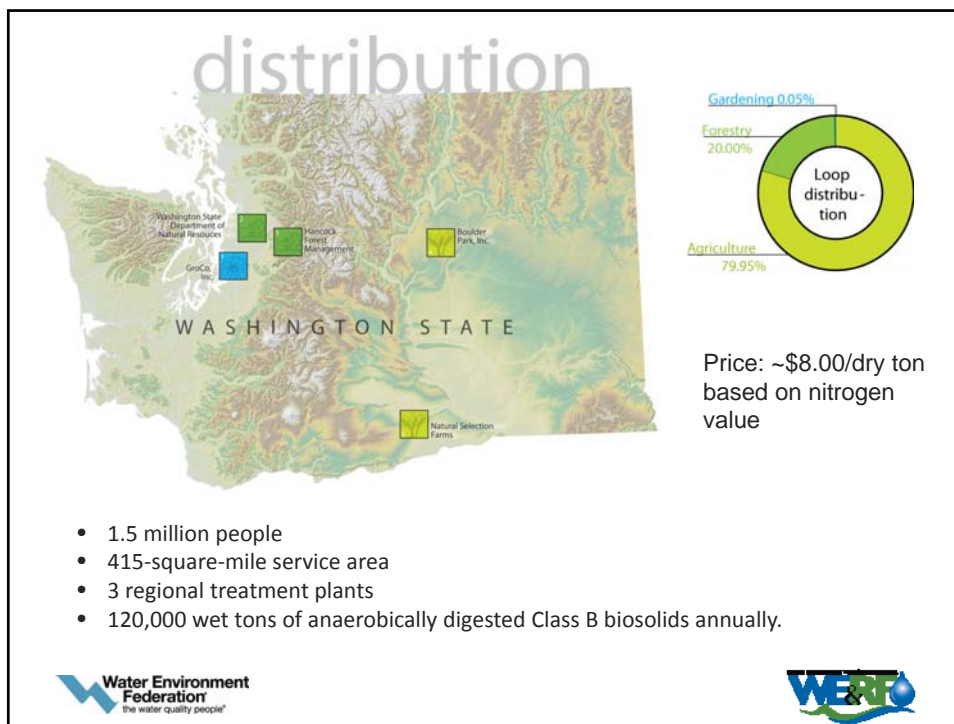


Promoting King County’s Class B Biosolids



Kate Kurtz
King County Wastewater Treatment Division
Biosolids project manager





King County Core Practices

- Focus on strong markets
- Work with respected farmers who are community spokespersons
- Support university research
- Work closely and build trust with regulators
- Stay hands-on with all projects
 - Network with other utilities
 - NW Biosolids, WEF, WE&RF
- Continually improve – do more than required
- Be proud of our work and product

Who Delivers the Message

Farmers who use biosolids are the best spokespersons for their projects.

THE PROBLEM:

Sludge

From Wikipedia, the free encyclopedia

For other uses, see [Sludge \(disambiguation\)](#).

The neutrality of this article is disputed. Relevant discussion may be found on the talk page. Please do not remove this message until the dispute is resolved. (March 2014)

Sludge refers to the residual, semi-solid material left from industrial wastewater, or sewage treatment processes. It can also refer to the settled suspension obtained from conventional drinking water treatment,^[1] and numerous other industrial processes. The term is also sometimes used as a generic term for solids separated from suspension in a liquid; this 'soupy' material usually contains significant quantities of 'interstitial' water (between the solid particles).


In the industrialized world, cities in particular have had a difficult time dealing with sewage waste.^[2] In 1992, a United States ban on ocean dumping of human sewage sludge went into effect, leaving cities the expensive option of having to dispose sewage waste in landfills.^[3] Seeing as sewage contains not only heavy metals^[4] and disease pathogens such as *Clostridium difficile*^[5] but nutrients as well, companies such as Synagro embraced the nutrient idea and marketed sludge as "biosolids" to farmers as a free fertilizer.^[6]

When fresh sewage or wastewater is added to a *settling tank*, approximately 50% of the suspended solid matter will settle out in an hour and a half. This collection of solids is known as raw sludge or primary solids and is said to be "fresh" before anaerobic processes become active. The sludge will become putrescent in a short time once anaerobic bacteria take over, and must be removed from the sedimentation tank before this happens.

This is accomplished in one of two ways. In an *Imhoff tank*, fresh sludge is passed through a slot to the lower story or digestion chamber where it is decomposed by anaerobic bacteria, resulting in liquefaction and reduced volume of the sludge. After digesting for an extended period, the result is called "digested" sludge and may be disposed of by drying and then *landfilling*. More commonly with domestic sewage, the fresh sludge is continuously extracted from the tank mechanically and passed to separate sludge digestion tanks that operate at higher

THE PROBLEM:

Despite scientific consensus on safety and benefits of land application, prolific misinformation persists





BIOSLUDGE.news

ENVIRONMENT CIVIL UNREST CORPORATIONS

HOT TOPICS MARCH 23, 2017 | BIOSLUDGE EVERY CALIFORNIA BREWERY NOW MAKING BEER OUT OF RECYCLED PLASTIC BOTTLES PAGE 1, 2

Biosolids Contain "Every Chemical, Every Heavy Metal, Every Pollutant" Now Devastating Human Health, Warns Former EPA Scientist

WRITTEN BY: TRACEY WATSON APRIL 3, 2017



GLOBAL CLIMATE CHANGE
Vital Signs of the Planet

FACTS ARTICLES NASA'S ROLE SOLUTIONS EXPLORE RESOURCES

Facts

Evidence Causes Effects Consensus Vital Signs Questions (FAQ)

Climate change: How do we know?




The New York Times

Fear of Vaccines Goes Viral

October 12, 2014



A line for vaccinations in New York City in the 1940s. Credit Library of Congress



FRAMING THE ISSUE:



OUR SOLUTION:



WHAT IS BRAND?

It is **everything** people think, associate and experience about a product or organization.

WHY BRAND OUR PRODUCT?

It gives us a set of tools to:

- Tell the story.
- Cultivate community support and understanding.
- Correct misinformation about biosolids.
- Set the stage for future business opportunities.



WHAT WE DID TO REVEAL OUR BIOSOLIDS BRAND.



OBJECTIVE, CONSENSUS DRIVEN APPROACH

- Our cross-functional brand team of 12 worked together to define the final brand strategy and elements.
 - Decided to create an ingredient brand.



DRYLAND WHEAT



CASCADE HOPS





COMMERCIAL FORESTRY



GROCO COMPOST



HONESTY IS KEY

- Research was conducted to reveal the brand strengths:
 - External interviews with people both familiar and unfamiliar with the program and product.
 - Internal interviews and information gathering with cross-functional leaders, department members, plant workers and staff.
 - Review of the competitive landscape.

“When you think of King County biosolids, what is the first thing that comes to mind, what are your top associations?”

“What are the top strengths and weaknesses of King County’s product?”





Brand name and logo process



- **Effective and on message:** emphasize core messages
- **Honest:** can’t hide what it is
- **Defensible:** trademark-able, not too similar to any other products
- **Somewhat edgy:** with small communications budget, edgy goes a long way because it’s memorable
- **Sub-brand accord:** has to sound and look good with other brands (e.g.: GroCo made with _____)
- **Roll off the tongue:** has to be easy to say



THAT WAS THE STRATEGY.
THIS IS WHAT IT LOOKS LIKE...



loop
Turn your dirt around



www.LoopForYourSoil.com

loop

What is Loop? | The Science | Gardens & Landscapes | Commercial Growers | About Us | FAQs | Contact

TURN YOUR DIRT AROUND

GARDENS & LANDSCAPES COMMERCIAL GROWERS FAQS

GroCo compost provides organic matter to soils and improves the physical properties of both sandy and clayey soils. GroCo is appreciated by

In Douglas County, Boulder Park, Inc. manages the distribution of Loop to local farmers, while Natural Selection Farms manages Loop in Yakima

If you're new to Loop, you probably have questions about it – perfectly understandable. Most of us can oo davs, or even vears, without

Water Environment Federation
the water quality people®

www.LoopForYourSoil.com

loop

What is Loop? | The Science | Gardens & Landscapes | Commercial Growers | About Us | FAQs | Contact

TURN YOUR DIRT AROUND

| Why is Loop Awesome? |

Loop is a natural soil amendment. Using Loop replenishes the earth and closes the nutrient loop that begins when harvested plants remove nutrients from the soil.

As it has for the past 40 years, King County produces Loop from solids extracted during the wastewater treatment process. Using Loop as a soil amendment closes the nutrient loop wherein harvested plants take nutrients from soil, humans obtain nutrients from the plants, and then we return nutrients to soil with Loop. Loop is an endlessly renewable resource restoring carbon and nutrients to the land for the good of plants, people, and Puget Sound.

Water Environment Federation
the water quality people®

SPECIAL OFFER
Buy 1 bag GroCo, get 1 free

Redeem at:
Sawdust Supply - 6314 7th Ave S - Seattle 98108
206-622-4321 - www.sawdustsupply.com

Limit one coupon per day - offer expires 5/31/12

Sequestering Carbon with King County's Loop Biosolids

Turn your dirt around

Fertilizing with carbon-rich Loop allows us to:

- 1 Increase plant growth, which removes CO₂ from the atmosphere and deposits more plant residues in the soil
- 2 Reduce the use of synthetic fertilizers, which are fossil fuel-intensive to produce
- 3 Increase soil carbon storage (C sequestration)

We offset over 38,000 tons of CO₂ equivalents in 2013

That's like taking **8,000** cars off the road!

GroCo COMPOST
MADE WITH **loop**
Turn your dirt around

GroCo COMPOST
MADE WITH **loop**

loop
Turn your dirt around

Water Environment Federation
the water quality people®

WERF





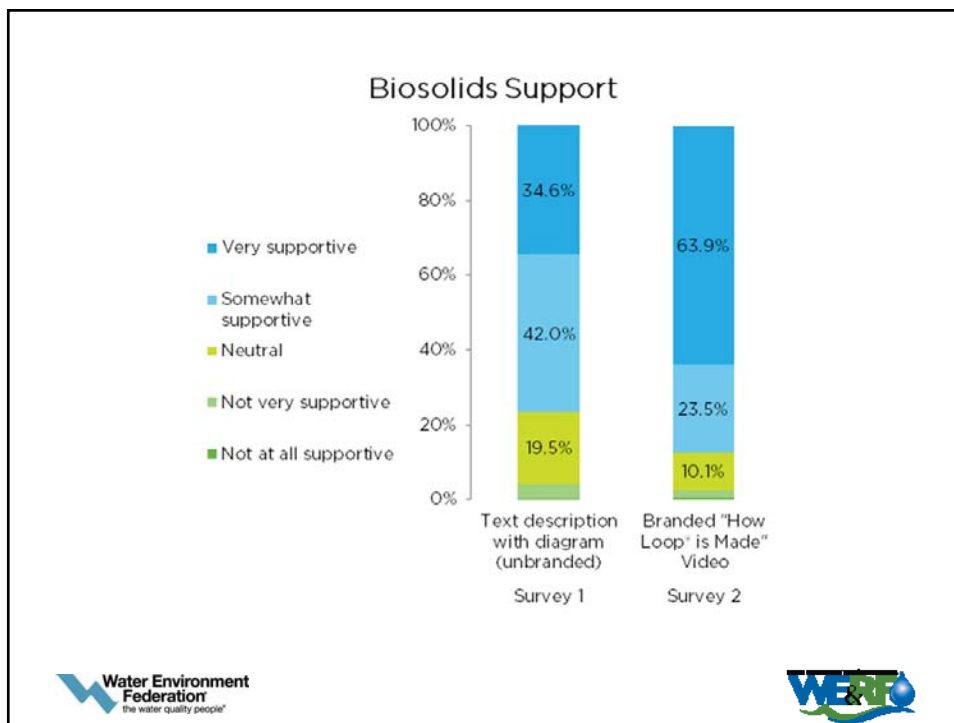
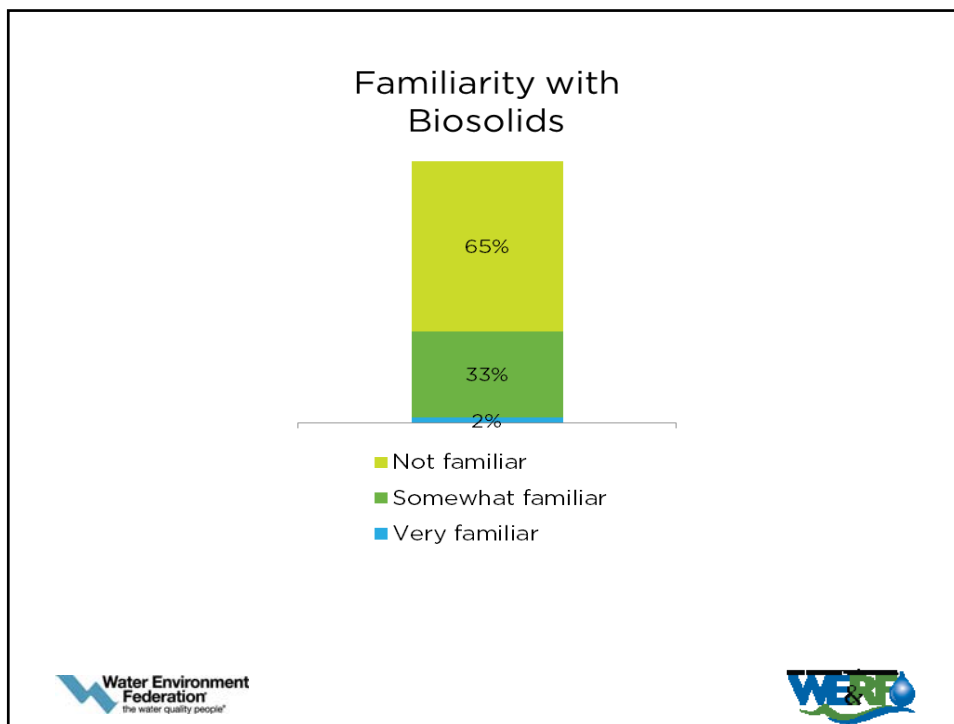
Loop YouTube Channel





HOW IS IT WORKING OUT?

- Overall well but room for improvement





Internal (KC staff) support is high

Q1: Loop awareness – 90% of employees are aware that King County's biosolids are branded as Loop.

Q3: What employees call Loop -

Q3. When you refer to King County's biosolids, do you refer to them as...(select all that apply)

Answer Options	Response Percent	Response Count
Loop®	52.2%	83
Loop® biosolids	36.5%	58
Biosolids	49.7%	79
Sewage sludge	1.9%	3
Sludge	9.4%	15
Poop	8.2%	13
Other (please specify)	7.5%	12
<i>answered question</i>		159
<i>skipped question</i>		2

Q5: Top strengths and weakness of Biosolids Program and Loop products –

- Strengths named included benefits to environment, sustainability and waste reduction, logo and visual elements, and staff knowledge.
- Weaknesses named included public perception or opposition, lack of retail availability and lack of Class A product, and low awareness of biosolids and Loop.

Q9: Likelihood to recommend Loop products – 76% of employees are likely or extremely likely to recommend using Loop biosolids products to family, friends, or colleagues.



Video

Very low number of video views:

- Gardening with Loop® biosolids – it's like magic: 1,979 views
- How Loop® Biosolids are Made: 1,242 views
- Farming sustainably with Loop® biosolids: 965 views
- Healthy, productive soil and biosolids: 752 views

Everyone has a story. Our friends share what they find inspirational about Loop.

HOW LOOP® BIOSOLIDS ARE MADE



What are biosolids and how are they made? Staff from King County Wastewater Treatment Division show how they transform raw wastewater into Loop® biosolids. After the transformation is complete, the endlessly renewable soil amendment is used to fertilize farms, forests, and gardens.

WSU SOIL SCIENTIST CONNECTS SOIL, BIOSOLIDS & SUSTAINABILITY



Washington State University soil scientist, Craig Cogger, Ph.D., talks about the incredible properties of soil. To Craig, it makes sense to return the nutrients and carbon in biosolids back to the soil in order to grow crops sustainably and fight climate change by sequestering carbon.



Messages

- Clear need for simpler, plainer language messages
- Focus on sustainability and values, not science

LOOP'S KEY AND SUPPORTING MESSAGES

Loop is good stuff that builds good soil.

Returning valuable nutrients to the soil makes good sense. King County's treatment plants produce about 120,000 tons of biosolids each year. After safely extracting good carbon and nutrients from wastewater, Loop replenishes the soil by returning the harvested carbon and nutrients back to our land.

Additional supporting facts:

- King County processes 175 million gallons a day of incoming raw wastewater.
- That is almost 64 billion gallons of raw wastewater treated every year.
- 120,000 wet tons of biosolids is enough to cover a football field to a height of 67 feet.
- With 1.4 million customers, that means about 170 pounds of biosolids per customer each year.

Loop is an almost-magical product. It's a never-ending resource. Loop's tremendous nutrient value feeds the soil in a healthy, natural way to help plants grow bigger and better. Using Loop is a simple and easy thing to do to help the environment — and plants — thrive.

Loop is safe, clean and consistent. Rigorously tested, it's regularly monitored and checked for safety and effectiveness. Biosolids products are more stringently regulated than any other soil amendment, manure, compost or fertilizer on the market.



LOOKING AHEAD

- More visual communication
 - More photos, videos, and infographics
- Prepare “flatter” materials that press/media can lift directly from – *can't sound like an advertisement, no jargon*
- Strengthen existing relationships and forge new ones with local environmental groups
- Focus on opportunities to work with other King County programs (e.g., Housing Authority, Public Health, Parks Department, Capital Projects)
- Targeted advertising via social media channels, public radio





Safely and sustainably returning carbon and nutrients
to our land through the use of biosolids.

Kate.Kurtz@KingCounty.gov

www.LoopForYourSoil.com



High Quality Biosolids From Wastewater (WE&RF Project NTRYR15)



Lisa Boudeman
Material Matters, Inc.



Research to Encourage Use of HQB

- Define HBQ
- Expand use of HQB nationally
- Create new products
- Demonstrate efficacy of HQB products
- Use HQB in urban and suburban settings
- Market to customers
- Use of Social Media



Project Background

National Priorities are Shifting

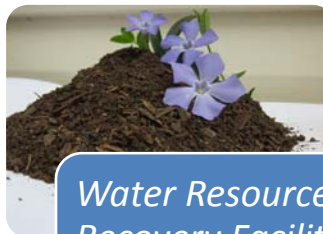
Then



Wastewater Treatment Plants

- Wastewater treatment
- Inefficient
- Sewage disposal

Now



Water Resource Recovery Facilities

- *Water reclamation*
- *Energy recovery*
- *Biosolids products*



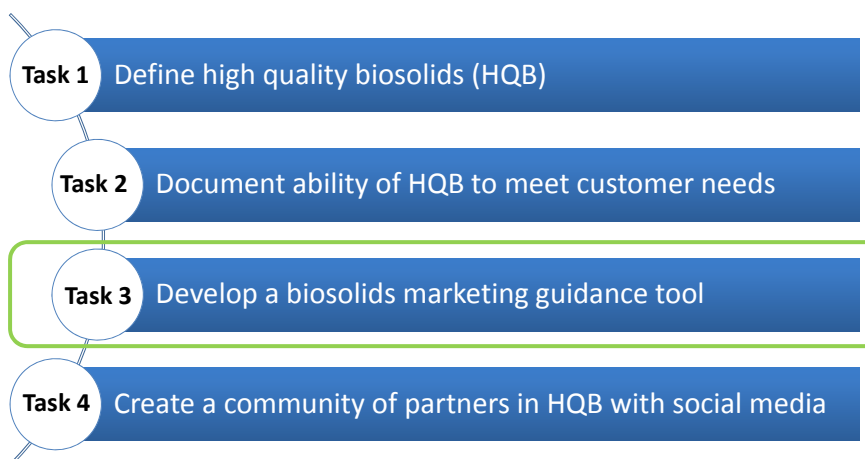
Photo Credit: <http://www.wfvtv.com/news/local/50h-determines-no-health-risks-to-residents-near-smelly-orange-county-landfill/464928267>

Project Background cont'd

- 40 CFR Part 503 Standards
 - What it ***does*** do:
 - ✓ Protects public and human health
 - ✓ Promotes distribution to areas with low public access
 - What it ***does not*** do:
 - ✗ Define stability
 - ✗ Define ability to store product
 - ✗ Meet *customer* requirements
 - ✗ Promote distribution in high public access areas



Project Objectives



Task 3 Approach

1. Identify key factors in successful HQB marketing programs
2. Develop guidance tool based on common components
3. Test template at target facility



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Federation
the water quality people®

Photo Credit: <https://www.dreamstime.com/stock-photos-cartoon-seamless-city-map-illustration-image12870253>

WATER ENVIRONMENT & REUSE FOUNDATION
WERFO

Step 1: Identify Key Factors of HQB Programs

Survey Utilities:

- Identification process:
 - Biosolids marketing program
 - Regional biosolids associations
 - Web presence
- Survey:
 - Biosolids processing
 - Marketing tools
 - Product sales
 - Market distribution



Survey Customers

- Identification process:
 - Utility contact
- Survey:
 - Product(s) used
 - Important characteristics
 - Influencing factors to start/continue using product

Water Environment
Federation
the water quality people®

WATER ENVIRONMENT & REUSE FOUNDATION
WERFO

Step 2: Develop Guidance Tool

- Compare utility and customer responses
- Identify commonalities:
 - Product qualities
 - Effective marketing practices



What brings customers in AND keeps customers coming back?

Step 3: Test Template

- Identify location to test tool
 - Biosolids product qualities
- Use marketing practices determined in Step 2
- Determining the tool's success
 - Survey WRRF personnel
 - Survey customers
- Modify tool as needed

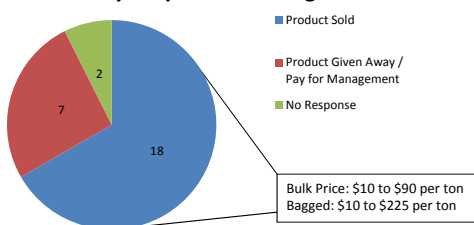
Utility Survey Overview

- 28 Participants
- Avg. daily flow: 0.033 mgd to 300 mgd
 - 42.4 mgd median
- Technologies:
 - Mesophilic anaerobic digestion with no pretreatment (17 of 28)
 - Drying (15 of 28)
 - Composting (5 of 28)
 - Alkaline stabilization (2 of 28)
 - Thermophilic Anaerobic digestion (1 of 28)
 - Aerobic Digestion (1 of 28)
 - Autothermal Thermophilic Aerobic Digestion (ATAD) (1 of 28)
 - Aerobic + Anaerobic Thermophilic Digestion (1 of 28)
 - Thermal hydrolysis + mesophilic anaerobic digestion (1 of 28)
 - Pasteurization + mesophilic anaerobic digestion (1 of 28)

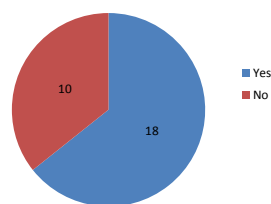


Biosolids Management and Marketing

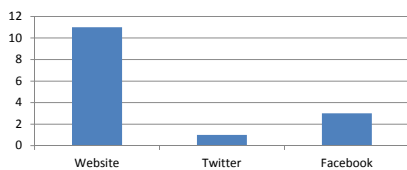
How is your product managed?



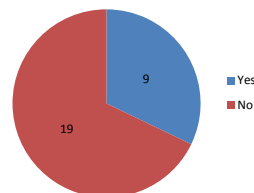
Is your product branded?



Do you market your product on social media?



Have you conducted any demonstrations?



Survey Evaluation

- Criteria describing successful biosolids program:
 - Percentage of biosolids sold
 - Number of known odor complaints
 - Number of markets that use the biosolids products
 - Sales price per volume
 - Number of repeat customers
- Key success factors:
 - No. of partnering entities master gardeners/universities
 - Type/duration of digestion, % volatile solids, etc. (**product quality**)
 - No. of markets that use the biosolids products
 - Website dedicated to biosolids program; no. of Tweets and/or Facebook posts, etc. in previous year (**media**)
 - Number of research projects/demonstrations (**credibility/proven results**)
 - Age of program (**experience**)
 - Product Branding

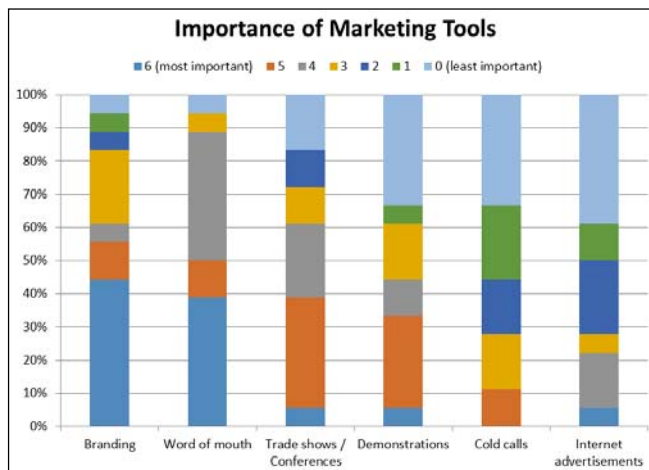


Statistical Inference

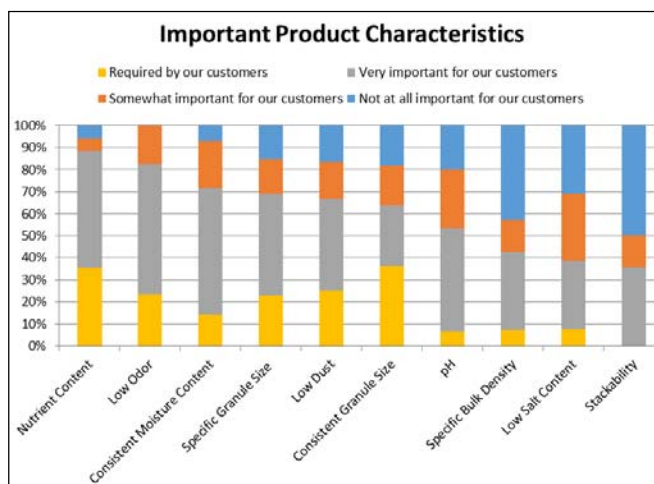
- Percentage of biosolids sold:
 - *No significant factors*
- No. of known odor complaints
 - *No significant factors (only 2 reported any)*
- No. markets that use biosolids product:
 - **Presence of research projects: $P = 0.003$**
 - **Program age: $P = 0.01$**
 - **Product branding: $P = 0.06^*$**
- Sales price per volume:
 - **Research projects: $P = 0.03$**
- No. repeat customers:
 - *No significant factors*



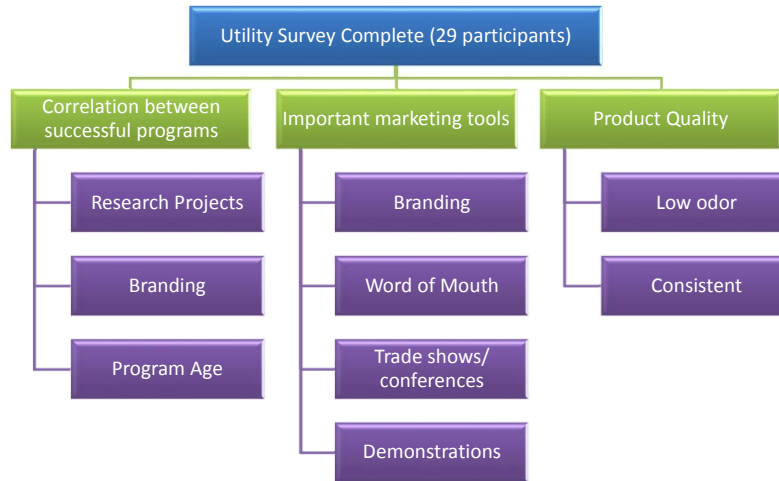
Descriptive Statistics: Marketing Tools



Descriptive Statistics: Important Product Characteristics



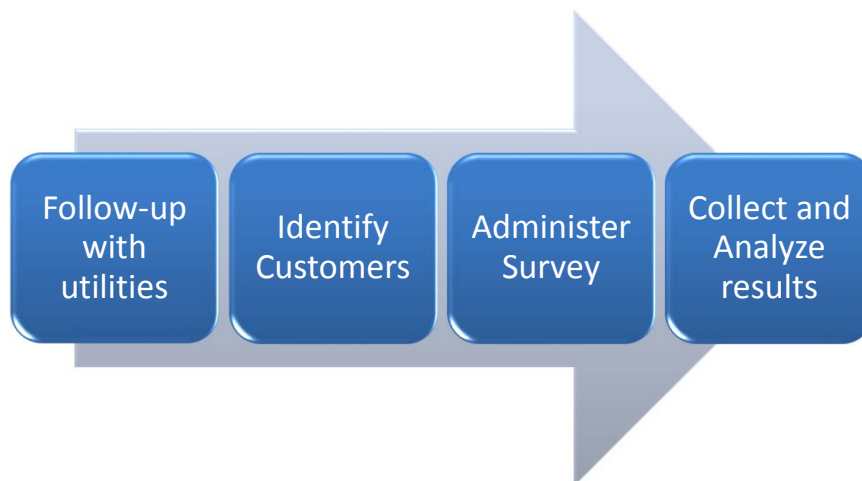
What have we learned?



Lessons Learned

- Survey questions can be interpreted many ways
- Long surveys deter participation
- Water Reclamation Facility operations are unique
 - Creates challenges when measuring “statistically significant” factors
- Successful programs protective of customers

Next Step: Customer Survey



Past Webinars of Interest

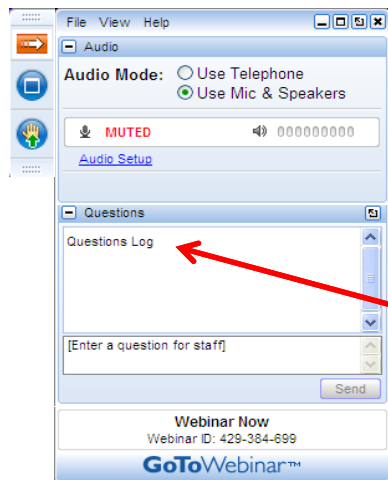
Available on www.wef.org

- Promoting Your Product: Marketing Tips and Techniques to Stimulate Biosolids Sales and Distribution

Available on www.werf.org

- High Quality Biosolids and the Power of Social Media (December 15, 2016)
- Assessment of High Quality Biosolids-Derived Products (February 22, 2017)

Questions?



- **Audio Modes**
 - Listen using Mic & Speakers
 - Or, select “Use Telephone” and dial the conference (please remember long distance phone charges apply).
- **Submit your questions using the Questions pane.**
- **A recording will be available for replay shortly after this web seminar.**