

SUMMARY REPORT

A SURVEY OF SKAGIT COUNTY RESIDENTS: OPINIONS ABOUT LOCAL REUSE AND RECYCLING OF BIOSOLIDS COMPOST



WASHINGTON STATE UNIVERSITY
 MOUNT VERNON

NORTHWESTERN WASHINGTON RESEARCH & EXTENSION CENTER

Caitlin Price Youngquist

and

Dr. Jessica R. Goldberger

Washington State University
Department of Crop and Soil Sciences

October 2013



Funding provided by the Town of La Conner, Washington

Introduction:

As part of a larger Washington State University (WSU) research project funded by the Town of La Conner, WA, a mail survey of Skagit County residents was conducted in March - May 2013. The objectives of the survey were (1) to gain a better understanding of residents' attitudes, opinions, and knowledge about the use of "Class A" biosolids both on agricultural land and in the community; and (2) to explore potential correlations between attitudes about biosolids and the demographics and lifestyle choices of respondents. Skagit County is a rural agricultural county in northwestern Washington State with a population of approximately 117,000 people. The Town of La Conner has a population of approximately 900 people.

Survey Methods:

In collaboration with the WSU Social and Economic Sciences Research Center (SESRC), we designed and implemented the survey in such a way that respondents could choose to participate either by mail (paper) or via the Internet (electronic). Surveys were mailed to a total of 1,374 households in Skagit County (including the Town of La Conner) using the Tailored Design Method¹. This method includes carefully designed and timed contacts to increase survey response rates.

A *pre-notification letter* introduced the survey and informed residents they had been selected to participate in an important survey for a WSU research project and would soon receive a questionnaire in the mail. This was followed by the *first questionnaire* mailing, which included a cover letter, a copy of the paper questionnaire, and postage-paid return envelope. A *postcard reminder* was then sent thanking respondents for their time and encouraging non-respondents to complete the survey. Two weeks later, a *replacement questionnaire*, cover letter, and postage-paid return envelope were sent to all non-respondents. A link to the electronic version of the survey was included in all mailings. The data collection period was open for approximately eight weeks to allow ample time for people to participate.

Survey Contact Sequence

Activity	Date
Pre-notification letter	March 13, 2013
First questionnaire	March 20, 2013
Postcard reminder	March 27, 2013
Replacement questionnaire	April 10, 2013
Data collection closed	May 15, 2013

¹ Dillman, Don A., Smyth, Jolene D., Christian, Leah M. 2009. *Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method (3^d Edition)*. New York: Wiley.

The survey population consisted of two sub-populations:

1. La Conner residents who were served by the La Conner Waste Water Treatment Plant in January 2013. This list was provided by the Town of La Conner. Businesses and multi-family dwellings were excluded. A total of 374 households were surveyed with a survey completion rate of 52%.
2. Randomly chosen sample of 1,000 households in Skagit County, excluding the Town of La Conner. This list was purchased from Survey Sampling International and based on U.S. Postal Service databases. The survey completion rate for this population was 32%.

Summary of Survey Responses:

1. How concerned are you about the following issues?

Issues	Mean scores on a scale of 1 = "Not concerned" to 5 = "Very concerned"	
	<i>La Conner</i>	<i>Skagit County</i>
Loss of farmland to development	4.41	4.31
Toxins in the environment (e.g., heavy metals, herbicides/pesticides, industrial waste)	4.34	4.23
Water pollution from fertilizers and manure	4.06	3.88
Access to locally grown food	4.00	3.88
Air pollution and smog	3.88	3.77
Topsoil loss and degradation	3.83	3.57
Climate change	3.69	3.38

2. Do you and/or members of your household regularly participate in any of the following activities?

Activities	<i>La Conner</i>		<i>Skagit County</i>	
	Yes (%)	No (%)	Yes (%)	No (%)
Recycle and/or purchase recycled products	92.5	7.5	93.6	6.4
Minimize the use of synthetic fertilizers and herbicides in your yard or garden	84.4	15.6	76.4	23.6
Compost food and/or yard waste	65.2	34.8	60.0	40.0
Use "chemical-free" or "natural" cleaning and personal care products in your home	65.0	35.0	50.2	49.8
Walk, bike, or carpool to reduce fossil fuel use	51.1	48.9	35.2	64.2

3. How important are the following labels when you purchase food or other products for your home?

	Mean scores on a scale of 1 = "Not important" to 5 = "Very important"	
Labels	<i>La Conner</i>	<i>Skagit County</i>
Local	4.07	3.68
Sustainable	3.56	3.43
Recycled	3.55	3.38
Natural	3.36	3.31
USDA certified organic	3.27	2.95

4. Do you consider yourself part of the local agricultural community?

	<i>La Conner</i>		<i>Skagit County</i>	
Response	Frequency	%	Frequency	%
Yes	74	39.6	76	28.7
No	113	60.4	189	71.3

5. Do you and/or members of your household have a garden or raise livestock as a hobby (for non-commercial purposes)?

	<i>La Conner</i>		<i>Skagit County</i>	
Response	Frequency	%	Frequency	%
Yes	105	56.5	149	55.6
No	81	43.5	119	44.4

6. Are you and/or members of your household actively involved in the commercial production of crops or livestock?

	<i>La Conner</i>		<i>Skagit County</i>	
Response	Frequency	%	Frequency	%
Yes	11	5.9	15	5.6
No	174	94.1	253	94.4

7. Many communities have citizens groups organized around the topic of community waste management. Are you interested in working with your neighbors and local government to develop a county-wide waste management strategy?

Level of interest	<i>La Conner</i>		<i>Skagit County</i>	
	Frequency	%	Frequency	%
Not interested	71	42.3	113	46.5
Somewhat interested	74	44.0	104	42.8
Very Interested	23	13.7	26	10.7

8. Where does the waste water (e.g., toilet, shower) from your home go for treatment?

Treatment method	<i>La Conner</i>		<i>Skagit County</i>	
	Frequency	%	Frequency	%
Community or municipal waste water treatment plant	138	74.6	127	47.4
Septic tank and/or drain field on my property	43	23.2	136	50.7
Don't know	4	2.2	5	1.9

9. Before receiving this survey, how familiar were you with the term “biosolids”?

Level of familiarity	<i>La Conner</i>		<i>Skagit County</i>	
	Frequency	%	Frequency	%
Not familiar	19	10.3	104	38.9
Somewhat familiar	109	58.9	126	47.2
Very familiar	57	30.8	37	13.9

Respondents were asked to read the following paragraphs before proceeding with the rest of the survey:

COMPOSTING is the controlled decomposition of raw organic materials, which occurs through the action of microbes. Bacteria and fungi digest raw materials such as food waste, yard trimmings, animal manure, and biosolids.

The result is a stable “earthy” material that is used as a natural soil conditioner. Compost pile temperatures reach 150 °F or more and as a result kill human and animal pathogens and destroy most weed seeds and toxins.

BIOSOLIDS are the solid or semi-solid by-product of the waste water and sewage treatment process. They are a source of plant nutrients and can be recycled as a fertilizer.

When biosolids are composted or dried at high temperatures, they become a “Class A” biosolids product. When ranked as “Class A,” biosolids are considered pathogen-free and are commonly used in residential areas for landscaping and gardening. They are also used on farm land to grow crops.

10. Do you support the use of “Class A” biosolids on farm land in Skagit County?

Level of support	La Conner		Skagit County	
	Frequency	%	Frequency	%
1 - Do not support	28	14.8	25	9.5
2	11	5.9	15	5.7
3	37	19.7	56	21.2
4	49	26.1	80	30.3
5 - Strongly support	63	33.5	88	33.3
Mean value	3.57		3.72	

11. How interested would you be in using “Class A” biosolids as a fertilizer and soil conditioner if it saved you money?

Level of interest	La Conner		Skagit County	
	Frequency	%	Frequency	%
Not interested	40	21.1	53	19.6
Somewhat interested	53	28.1	90	33.2
Very Interested	82	43.4	97	35.8
Not applicable - I do not have a garden or farm	14	7.4	31	11.4

12. Special labeling is not required for food grown using biosolids. Do you think that the government should create new labeling requirements for food grown using biosolids-based fertilizers?

Response	La Conner		Skagit County	
	Frequency	%	Frequency	%
Yes	103	54.5	122	44.7
No	49	25.9	80	29.3
Don't know	37	19.6	71	26.0

13. Many food crops are grown using animal manure (i.e., cow, chicken) as a fertilizer and soil conditioner. How do you feel about this?

Feelings	La Conner		Skagit County	
	Frequency	%	Frequency	%
Very negative	8	4.3	8	3.0
Somewhat negative	21	11.2	21	7.8
Neutral	46	24.6	83	30.7
Somewhat positive	48	25.7	77	28.5
Very positive	64	34.2	81	30.0

14. Some food crops are grown using "Class A" biosolids as a fertilizer and soil conditioner. How do you feel about this?

Feelings	La Conner		Skagit County	
	Frequency	%	Frequency	%
Very negative	25	13.4	24	9.0
Somewhat negative	25	13.4	28	10.5
Neutral	46	24.6	81	30.3
Somewhat positive	45	24.0	71	26.6
Very positive	46	24.6	63	23.6

15. Many food crops are grown using synthetic fertilizers (e.g., urea, diammonium phosphate). How do you feel about this?

Feelings	La Conner		Skagit County	
	Frequency	%	Frequency	%
Very negative	33	17.6	55	20.3
Somewhat negative	76	40.4	102	37.6
Neutral	46	24.5	86	31.7
Somewhat positive	23	12.2	14	5.2
Very positive	10	5.3	14	5.2

16. In your opinion, which of the following are appropriate uses for “Class A” biosolids in agriculture?

Appropriate uses	La Conner		Skagit County	
	Yes (%)	No (%)	Yes (%)	No (%)
Non-food crops (e.g., flowers, ornamental trees, timber)	92.5	7.5	93.2	6.8
Hay or grain for animal feed	70.2	29.8	78.1	21.9
Grains, hops, or fruit used to make beer and wine	62.2	37.8	70.2	29.8
Grain for human food (e.g., wheat, oats, corn)	52.2	47.8	59.8	40.2
Fruits and vegetables	46.5	53.5	57.0	43.0

17. In your opinion, which of the following are appropriate uses for “Class A” biosolids in your community?

Appropriate uses	La Conner		Skagit County	
	Yes (%)	No (%)	Yes (%)	No (%)
Landfill cover, erosion control at construction sites, highway medians, etc.	94.6	5.4	88.3	11.7
Commercial landscaping (e.g., private businesses, golf courses)	93.0	7.0	90.2	9.8
Public landscaping and parks	89.2	10.8	85.2	14.8
Home gardens and landscaping	74.5	25.5	75.5	24.5
Farms	63.3	36.7	73.9	26.1

18. To what degree would you be concerned about the following if a neighbor were using animal manure (e.g., cow, chicken) on their garden or farm?

	Mean scores on a scale of 1 = "Not concerned" to 5 = "Very concerned"	
Concerns	<i>La Conner</i>	<i>Skagit County</i>
Accumulation of toxins in water or soil	3.20	3.46
Exposure to toxins for me or my family	3.00	3.29
Risk of disease for me or my family	2.95	3.23
Illness or disease of animals (i.e., pets, wildlife)	2.89	3.15
Loss of property value	2.73	3.00
Unpleasant odors	2.68	2.90

19. To what degree would you be concerned about the following if a neighbor were using "Class A" biosolids on their garden or farm?

	Mean scores on a scale of 1 = "Not concerned" to 5 = "Very concerned"	
Concerns	<i>La Conner</i>	<i>Skagit County</i>
Accumulation of toxins in water or soil	2.99	3.06
Exposure to toxins for me or my family	2.93	3.01
Risk of disease for me or my family	2.83	2.94
Illness or disease of animals (i.e., pets, wildlife)	2.72	2.84
Unpleasant odors	2.68	2.69
Loss of property value	2.59	2.77

20. The following two questions were asked only of respondents who were served by the La Conner Waste Water Treatment Plant.

A. Washington State University is conducting research with biosolids compost produced at the La Conner Waste Water Treatment Plant. This research is focused on community opinions, local agricultural use, and the fate of pharmaceuticals in compost. Do you support this research activity?

Level of support	La Conner	
	Frequency	%
1 - Do not support	7	4.2
2	4	2.4
3	11	6.7
4	27	16.4
5 - Strongly support	116	70.3
Mean value	4.49	

B. To what degree do you disagree or agree with the following statements about the biosolids composting program at the La Conner Waste Water Treatment Plant (WWTP)?

	La Conner				
	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)
I appreciate that La Conner biosolids compost is available to town residents free of charge.	3.5	3.5	19.4	14.7	58.8
I support the biosolids composting activities at the WWTP.	8.2	2.4	16.5	21.8	51.2
Composting biosolids turns a waste product into a valuable resource.	6.4	5.2	13.9	26.0	48.6
Unpleasant odors come from the La Conner biosolids compost.	15.0	13.3	27.8	20.8	23.1
Instead of composting, biosolids should be incinerated or disposed of in a landfill.	50.0	18.8	20.6	5.3	5.3

21. Did you know that the Town of La Conner received the 2012 “Excellence in Biosolids Management” award from the Northwest Biosolids Management Association?

Response	<i>La Conner</i>		<i>Skagit County</i>	
	Frequency	%	Frequency	%
Yes	82	43.9	12	4.3
No	105	56.1	265	95.7

22. What is the highest level of formal education you have completed?

Education	<i>La Conner</i>		<i>Skagit County</i>	
	Frequency	%	Frequency	%
Some high school or less	4	2.1	5	1.8
High school diploma or equivalent	44	23.5	96	35.0
Bachelor’s or Associate’s degree	83	44.1	121	44.0
Graduate degree	57	30.3	53	19.3

23. How old are you?

Years of age	<i>La Conner</i>		<i>Skagit County</i>	
	Frequency	%	Frequency	%
18 - 30	6	3.2	15	5.7
31 - 50	25	13.4	46	18.8
51 - 70	102	54.5	137	52.5
> 70	54	28.9	60	23.0
Mean age	63.0		59.0	

24. What is your gender?

Gender	<i>La Conner</i>		<i>Skagit County</i>	
	Frequency	%	Frequency	%
Female	95	51.4	130	47.4
Male	90	48.6	144	52.6

25. Are there children under the age of 18 living in your household?

Children	<i>La Conner</i>		<i>Skagit County</i>	
	Frequency	%	Frequency	%
Yes	25	13.4	60	21.0
No	162	86.6	213	78.0

26. Do you have any additional thoughts, comments, or opinions that you would like to share?

<i>La Conner</i>
Concerned with heavy metals and pharmaceuticals that remain, need tests for heavy metals.
Q3 - I don't believe every "natural" label I see!! Or organic. Q20 - Some people will complain about anything. They move to Skagit Valley and then complain about dairy farms, tractors on the roads, etc. It's called life in the country. They think it's beautiful but should just visit, not move here!
My concern is with the accumulation of pharmaceuticals, heavy metals in any product. And pesticides.
I am all for research, but thought it was a waste of government funds to do the mailings for this. What a waste of taxpayer dollars to send out not one but TWO mailers. Shame on you for wasting our hard earned dollars.
I have been using biosolids from the La Conner WWTP around my yard for years. It's great! I'm grateful for it.
My only concern is the possibility of drugs passing through the composting process. It would also be interesting to know how much nitrogen, etc., is in the La Conner compost.
I completed this form within two days after receiving. There may be inconsistencies between responses. I have completed this form before. I am afraid I cannot remember how I answered the first time.
I use the compost all the time.
I use the La Conner biosolids on my yard. It works great.
The smell is very offensive on some days. There should be a way to control this issue.
I use the product on my flower beds and I love it! Flowers grow like crazy.
I understand the revenue stream to the town of La Conner, but would be interested in the net gain, with respect to the cost of this study, and other related expenses. I would be very interested in the sales dollar totals of the biosolid products, as well as the total costs. If the material were certified organic, I think there would be a very viable product to offer for sale, but until the pharmaceuticals and heavy metal issues are resolved, the process is questionable.

<p>While I am a supporter of composting and reuse of biosolids I have several strong concerns and observations about the composting operation of La Conner and the unlimited use of the end product. These include:</p> <p>The foul smell that greets us as we enter and exit town negatively affects local businesses and my quality of life. It needs to end.</p> <p>I have personally seen run-off from the compost piles flowing into Sullivan Slough and the neighboring farm. This is totally unacceptable and needs to be cleaned up immediately.</p> <p>There are alternative treatment options (digesters) that could control the smell and produce a more consistent end product. Grants are available to help fund the infrastructure upgrades but I have not heard of any interest in pursuing the alternatives.</p> <p>The unrestricted use of the compost concerns me. I have not seen any data on the contents of the compost over a long period of time. My concern is related to inputs. We can't control what everyone is putting down their drains or toilets. Household products and medications can be very toxic even at low volumes and I am not convinced the composting process renders those inputs harmless. In addition, I am concerned we are receiving sewage from other more commercial or industrial areas that may pose a bigger threat. I would like to know more about the inputs, how they are controlled and the content of the end products.</p>
<p>Excuse delay. I am legally blind. Forms very difficult to fill out.</p>
<p>Support the project, just would want to have more information available to the public in general.</p>
<p>Some of the comments I made were just guesses as I have little knowledge about the questions. I am not a member of the farm community and my age keeps me close to my home area!</p>
<p>I grew up using animal manure. I strongly believe in composting and worm composting. I'm still not entirely sure of biosolids as a fertilizer for the foods we eat. We, as a family, would like to learn (have more knowledge) about it. If truly safe, as you say, we strongly support it.</p>
<p>1. Studies have shown that composting at temperatures both above and below 140 degrees F is inefficient. 2. Human waste in any form should not be used for fertilizer. 3. The La Conner WWTP currently tests for e-coli only per Washington regulations. EPA studies found many other pharmaceuticals, metals etc. in most sites tested. Who knows what is in ours!</p>
<p>The location of the compost mixing with biosolids in La Conner is near Sullivan Slough. If the compost needs to reach 150 degrees Fahrenheit to treat the finished product, is a new mixture that has not heated up to 150 degrees yet leaching into the surrounding area? Federal restrictions on use of this product seem to throw a red flag on how stable and earthy it might not be...Thanks for asking our opinion.</p>
<p>I don't mind odor. It's part of the process. People new to area need to understand that.</p>
<p>I know there were problems associated with the smell of our waste treatment in previous years. I hope the problem has been addressed and corrected.</p>
<p>I think there are too many government (our tax) dollars spent on these unnecessary research projects. "Eco-ranters" are too much in control of our tax dollars so they can live off of that grant money.</p>

<p>We do think that it is good to recycle biosolids on a local basis, but our town of La Conner is accepting sewage from septic tanks and porta potties from a very extensive area that may include up to a quarter of our state. It seems to us that the only one that is really benefitting from this project is the head of our waste treatment plant. Financially he is reaping a gross amount of money compared to what our town receives. We live in a tourist town and when people drive into our town they have to go by our treatment plant and the smell is extremely offensive. At our elementary school the kids go out to recess and have to inhale the foul odor. We say NO to BIOSOLIDS at this level of production!</p>
<p>It will be nice if we all get a free recycling program (service). We already pay for garbage collection; why not include a recycling bin along with garbage cans at no charge.</p>
<p>I have concerns about the content of the compost. Metals and the pharmaceutical traces still in compost. The smell!</p>
<p>I support the biosolids program but the profits should go back into the waste and water fund to reduce our waste and water fees.</p>
<p>What La Conner has done is really remarkable for the size of town. In Okanogan, Canada the material from the Biosolid Process Plant are sold to residents and commercial fertilizer companies, i.e., Natures Gold, which is the top bagged fertilizer up there.</p>
<p>Thank you for this informative information. We have lived here since 2004 and have always appreciated this free service to La Conner residents. It would be wonderful if other towns and cities would copy La Conner's success!</p>
<p>I have concern for the businesses and homeowners who are within a quarter mile of the plant. The odor is bad. I live about 3/4 of a mile and at times I notice it and don't like it also. Thank you.</p>
<p>Thanks for all your hard work!</p>
<p>This survey seemed to me to be set up to bias the results towards biosolids composting and it is not independent, and ignored overall costs. The effect of accumulation of heavy metals and virus loading was completely overlooked. I can smell the foul odor from the site 20% of the time. The Mayor has been disingenuous about the total cost of the system.</p>
<p>Thanks for taking the time to do this!</p>
<p>I heartily endorse and appreciate access to the compost, I use it on all my flower gardens; cannot say enough good. Thank you.</p>
<p>I appreciate the efforts that are being done toward keeping biosolids out of landfills and finding better ways to create sustainable practices.</p>
<p>I have used it around house and garden. Works very good.</p>
<p>We have been bothered by town of La Conner odors from the treatment plant but not in the last year. We used the free compost in our ornamental gardens but not in our vegetable garden. Our big concern is the possible pharmaceutical remains in town compost.</p>
<p>We moved here last year into our townhouse. Recently used the compost on all our condominium beds versus wood mulch! Looks great and was free. We are hoping it does not promote weeds in the beds. First time I have used it, odor wasn't noticeable to me.</p>
<p>Heavy metals, etc., from sewage is not a good item to introduce to areas that grow food for the populace.</p>

<p>This survey does not actually address the concern about pharmaceuticals in the biosolids. My research suggests Grade A is okay for vegetable gardening, but it would be great to have the drug content really examined. The worst part of La Conner's biosolids treatment is the nauseating smell- absolutely disgusting! I do use this on my garden, however.</p>
<p>My answers presume adequate monitoring of the "product" for toxins and residue from drugs and medications.</p>
<p>Their product is great. My plants love it.</p>
<p>This survey is flawed. Survey does not address the basic problem: La Conner is needlessly transporting human waste into our community. There is no way La Conner can control the hidden dangerous elements in this human waste. Therefore, the attempt to make money at the risk of our environment and community will only result in long-term damage. The biosolid composting site is in the middle of an organic farm and fish habitat. Contamination is unavoidable.</p>
<p>Thank you!</p>
<p>I believe that the amount of heavy metals in biosolids should be looked at before using them in agricultural use.</p>
<p>I appreciate making a useful product from waste. However, there were odor problems on the south end of town. That seems to be fixed so hopefully the research will continue. Thanks.</p>
<p>This sounds like a great resource and I'm glad to find out there is biosolid compost available. I did not know this.</p>
<p>Thank you for the opportunity to contribute. My greatest concerns about any waste products as fertilizers, etc. would be around how it affects the health of humans and other animals - the smell is bad!</p>
<p>I grew up in Skagit County on a farm and lived here all my life. Mother Nature has been good to the earth to grow things. We do not need biosolids to add manmade products or pharmaceuticals to our growing needs.</p>
<p>I would like some confidence that the pharmaceuticals can and are removed. Until that day comes and perhaps in addition to that it would be helpful to start a drug collection campaign where pharmacies take back and dispose of excess, out of date, leftover drugs rather than flush them down the toilet. Just making people aware of what they are doing would help some.</p>
<p>Chemicals and prescription drug residue are a potential concern. So are controlled temperatures to assure complete baking of the total mass.</p>
<p>Biosolids is real boost to La Conner's budget (money).</p>
<p>Go green!</p>
<p>This is a very complex issue and I'm concerned that the water coming into the La Conner WWTP contains heavy metals, antibiotics and or pharmaceuticals. GAP and organic certification precludes the use of community biosolids. Use of their product would limit future options for the certifications mentioned above. I think the unintended consequences could have a negative impact here in our magic Skagit. This issue requires a thoughtful unbiased and cautious approach. I'm counting on Washington State University to do that. Thank you.</p>
<p>F.A.R.M: FOR A REAL MEAL, support our farmers.</p>

<p>Question 20 talks about pharmaceuticals, but there are no questions about this negative aspect of compost. What about trace minerals—cadmium, selenide, etc. This survey is incomplete. What is "N"?</p>
<p>I use the town compost on my flower beds, but not on my garden. I use my own compost, which includes manure from my chickens, on my garden. My only concerns about biosolids use by my neighbors would be that they are used properly and not piled up where they could blow around, or washing onto my property and ending up in my garden. My main concerns about biosolids are that pathogens and hormones from humans are far more likely to be transmittable to other humans and there is no process that can guarantee 100 percent removal of those dangers. Since fruits and vegetables are far more vulnerable, I don't want biosolids used for those products.</p>
<p>This survey glosses over many of the dangers contained in bio-soups. It does not address potential long-term dangers to commercial farming. To be certified organic one cannot use biosolids. With sustainable organic farming growing as an economic sector, the use of this product and its potential harm presents a danger to the agricultural community in the Skagit Valley. Ask this question: would you prefer a strawberry grown with human waste or one marketed as not grown with human waste?</p>
<p>Unfortunately "local" is becoming too trendy and costs too much to support. I see the importance of biosolids but there should be more tests and information about pharmaceuticals in the composted matter. A friend died of cancer and left behind a lot of drugs. The doctor told us not to throw them away or even incinerate them! I was told to flush them! If others are being told this what happens to them once they are composted?</p>
<p>We regularly use the compost produced by La Conner Waste Water for our flowers and shrubs. We are still skeptical about using this compost in our vegetable garden and around fruit trees. When we are convinced that Class A biosolids contain no unhealthy residue, perhaps we will broaden our use of this compost.</p>
<p>Biosolids should not be used for food producing areas. Too much medical/pharmaceuticals, as we're also finding in our water supply.</p>
<p>Concerns with compost from the sewer plant: That it may contain paint, chemicals, drugs and plastic. That kids and dog put it in their mouth. That a bad batch either toxic or not fully broken down is released for public use. I always had a compost pile at my home but never get too excited about it. A farmer once told me "that sooner or later, everything turns to shit." I couldn't get the website to do it online!</p>
<p>My main concern with biosolids are heavy metals, mercury, etc., and pharmaceuticals.</p>
<p>I recommend reading Azby Brown's "Just Enough: Lessons in Living Green from Traditional Japan" copyright 2009, in particular pages 134-137: "The high value of human waste."</p>
<p>I think it is ridiculous that the Town of La Conner would invest in this "plant" and not have mandatory recycling with garbage pickup—pretty stupid!!</p>
<p>Send more information for our decisions.</p>
<p>I would like to see more research on how to farm without relying on fertilizers so much. Biosolids may be an answer but we need to know more about the accumulation of toxins/pharmaceuticals in those products.</p>
<p>I appreciate turning waste into a useable product. I worry most about high levels of residual pharmaceuticals being used on food and beverage products. If used, it needs to be labeled so we can all make informed choices. Ditto GMO!</p>

The treatment plant is a great idea for La Conner, but it's at the entrance to a town that depends on tourism. And sometimes it does smell. Not often, but sometimes.
Biosolids are a resource and should be used.
I live on the hill in La Conner. My porch railings now have a thin brown film on them when I wipe them down. Sheets and clothing dried outdoors no longer smell good. I know that is small potatoes, but it indicates some obvious change in our air quality.
I wonder if composting is enough to neutralize the drugs/additives/chemicals present in the waste of humans and livestock. And in the chemicals from the waste collected from porta potties. I hope your study addresses this.
As a local for 50 years, changes in this place and everywhere is inevitable. Often, issues are out of our control. Like my husband says, "Sure we support the WWTP; we poop and it is part of the end product!" I love farmland, hate to see it misused and when tourists come, complain of cow manure being spread—that's B.S.!! Now we have them doing a lot of the complaining about human doo, how can we stop that, no choice.

<i>Skagit County</i>
I have concerns regarding biosolids that contain human waste and some animal waste. There is evidence that synthetic hormones and other pharmaceuticals do not break down and are passed on to other species through waste water.
Wish I was more intelligent about these issues. Thank you.
Using human sewage and waste water as fertilizers as was done years ago in Ferndale, and was found to contain heavy metals and pharmaceuticals, shows that this use in our food chain is irresponsible. Unless and until these products are free of these materials the use should not be even considered on our farmland--period!!
We have used the biosolids from La Conner waste treatment plant in our home garden (ornamental garden).
Thank you.
I'd encourage you to provide helpful hints and materials for composting.
I think biosolids are a wonderful and stimulating idea. Health should never be put on the back burner because of cheaper farming methods using manure that could carry toxics or synthetic fertilizers and pesticides. Thank you for sending out a most enlightening survey.
Would like to see Sedro-Woolley receive excellence in biosolids management in the near future.
I live in a mobile home park. They don't allow anything extra. They don't even like us to have a garden. We don't have recycle containers. Allowed only one small garbage container.
I used La Conner biosolid compost for flower beds but found that it was not good fertilizer for my flowers.
I don't like surveys or participating in them. I like to be left alone.
My partner and I took this questionnaire together and both agree on all questions. We feel the more natural the better in all areas of life.

<p>Very pleased that, where I work, we are now able to do quite a bit of recycling due to the possibility of combining various types of material in our recycling dumpster. We also are composting all food waste for use on the farm.</p>
<p>My concern about human biosolids is the amount of pharmaceuticals people consume that go into the sewage process and contaminate our planet (and biosolids I can only assume). Otherwise it is a decent idea.</p>
<p>Would be interested in learning about metals, or other contaminants (chemical) in biosolids. Are they present? Are they tested for? What are the limits?</p>
<p>I grew up on somewhat of a small farm and we used chicken manure and a little goes a long way if mixed in properly. If people know how to fertilize properly it's fine. They make fun of me at work for how much stuff I take home and recycle. I do construction and we create so much waste that can be recycled, it's sad but the cost factor is so great that it's not worth the time. I only create 3 to 4 cans of trash a year (I am trying).</p>
<p>I realize that biosolids accumulate and we must find a way to get rid of them. My main concern is not the bacteria (I realize the biosolids are treated) but the other, toxic or poisonous materials that many people dump down drains or toilets. Is there a way to test each load of biosolids to see if it has such toxins as heavy metals, toxic cleaning agents, etc?</p>
<p>I use vegetable and lawn compost for my yard and garden plus ammonium sulfate on blueberries and acid-loving plants.</p>
<p>I think alternative thinking and choices are conducive with the environment. Organizations like yours can make a difference for man/woman and planet; just make sure there's proper balance and common sense used!</p>
<p>Don't actually have much firsthand knowledge of biosolids but have heard good things about it.</p>
<p>After taking this survey I feel like I don't know enough about fertilizers that are being used in my area. I am also going to look into more information about the different fertilizers and their risks.</p>
<p>Sorry to delay return. Found this very interesting! I learned. Glad there is concern! Thanks!</p>
<p>I have been buying La Conner biosolids for 2 years now, and am very pleased with it. I feel much safer using this product rather than untreated animal waste. Looks great in the landscape and my plants/ garden are thriving. Now I don't spend money on purchasing fertilizer or bark mulch. Neighbors can't even tell, they think it looks nice! No odor. I do use the screened material.</p>
<p>I use organic fertilizers on a six by twelve foot raised bed garden. I use organic fertilizers for lawn and flower beds.</p>
<p>Seems like a great idea. More information about biosolids presented to the general public would allow more people to feel comfortable using them.</p>
<p>I support the use of biosolids as fertilizers and soil enhancements as long as the processes involved in making the biosolids are well controlled and as mistake-proof as humanly possible... That being said, I realize that the human part/variable of any process is the most difficult part to control.</p>
<p>Biosolids by any other name is still sludge.</p>
<p>I believe there should be a protocol for treating Class A biosolids to ensure that the product does not contain viable pathogens. The producer, then, should certify that the product has met these requirements. Otherwise, how does the consumer know that the product is safe, i.e. exposed to high temperatures for and adequate time to kill the pathogens? Maybe a procedure already exists.</p>
<p>Do you really want drugs and these chemicals in our food chain? Only our horses were given shots</p>

when competing in and out of state. Chickens, ducks, cows, goats, and horses were all raised without drugs.
I absolutely support long-term research on biosolids. I would like to know how medications break down in the process.
I was kidding about the "Fat Free" label.
Go huskies!
Sorry, we do not know enough about this to have an opinion, nor the time to research it. We no longer feel safe about our foods here in the U.S., but the huge population of our Earth will need to yield more and more. Your research is important. Best of luck.
I have major concerns for contamination of biosolids with pharmaceuticals and chemicals. I don't understand if these are removed in the process, but am doubtful.
Thanks for the information on biosolids—unknown to me until now!
Thank you for asking.
I am skeptical of the objectivity of this survey.
The public needs more information and easier access to recycling. I've found too many items I thought were recyclable are not.
I do not support any organic activity not inspected by the USDA.
I didn't know La Conner did biosolid composting. I also hadn't thought of the implications or possibility of pharmaceuticals in biosolids. I'll have to look into this.
When I was in Vietnam in the early 1970s, we shipped rice over from the States because of the "fertilizer" used locally. I still remember this after 40+ yrs...
I live in a condo—so many of the above questions are not applicable to me.
Composting of biosolids can go very well. It can also go wrong as with Cedar Grove's many problems. While it may reach temperatures to kill or destroy pathogens, it may not in all areas of the pile. What testing will occur to ensure all are destroyed? Combustible gases are given off during composting. These should be collected and sold or utilized. Why didn't this questionnaire mention that? I have recently heard of odor problems at La Conner's facility. What is being done to ensure that that never happens again?
Good luck on it.
We are 100% supporters of Farmer's Markets, grass feed meat, natural poultry, and organic practices because it is healthier and better tasting. We support these practices in Washington and California and gladly pay the premium price.
Not being conversant with this subject, I am a poor choice to complete this survey.
Q4: I consider myself part of the agricultural community because I try to buy from local, organic producers (not because I am an agricultural professional producer). Q20: Not enough is known about the content/effect of La Conner's product.
I would like more information on biosolids. What is the process to make biosolids? Thank you.
I generally consider the use of biosolids to be a good use of "resources."

I and my family would like to see increased awareness and education of biosolids, along with their uses and risks.
Thanks for survey! Good luck!
Pierce County Public Works "Tagro" is fine for ornamentals but was not recommended for food crops because of heavy metals. Putting this on farm fields is a scary proposition—especially for the aquifer.
Keep up the good work!
It seems to me that Monsanto, ADM, etc., are trying to put things in my mouth without my consent, despite FDA efforts and EPA regulations. Cancer, digestive disease and allergies are all increasing. Now someone is telling me it's okay to eat my own shit. I'm very hesitant to agree with that!
My biggest concern is the accumulation of heavy metals and pharmaceuticals. I know these are occurring in the waters of Puget Sound and in the marine life. The pharmaceuticals have been traced to waste water. We don't want these in our food sources as well.
Thanks for the survey—most interesting. I just need more information on biosolids. I like the idea but really don't know the particulars.
The need does not justify using used prescriptions and other toxins as fertilizers on crops for human consumption. Aren't we poisoning ourselves fast enough without recycling our toxins back into the food chain?
More information about use of biosolids commercially available to homeowners.
My primary concern with biosolids is the likely accumulation of heavy metals and other toxins from materials like household cleaning agents over time and repeated applications.
I am not concerned about biosolids, only the "purity of biosolids." If industries, medical facilities, individuals who do not care are dumping toxic chemicals such as Drano, cleansers, medications, salts, shop residues, etc., foods that are non-organic—nothing will be "organic." How do we keep the biosolids bio? I see people pour all sorts of liquids into drains.
Hope you're successful in this project.
Hard to answer some of the questions as not enough data to give an educated answer. Will do some personal research on positive and negative repercussions of biosolids usage.
Please note that all of the above assumes that heavy metal concentrations in biosolids are minimal.
From your description, Class A biosolids seem safe and beneficial. Kudos to La Conner! There is potential for human waste to be put to use, rather than flushing it all away with potable water! I keep a worm bin as well as a passive compost pile.
Anything to help reverse damage done by chemical mistreatment of soil, air and water. I am for going back to the natural ways. Number 1: stop use of chemicals in farming and get rid of barbecue starter! Pew.
When will Skagit County receive "Excellence in Soil, Farm, Water and Local Food, and Sustainability" for the nation?
General public ignorance regarding environmental conservation is what holds back successful programs like biosolid use.

Establishment of standard testing for purity and chemical contamination. Tracking of lots through regular practices. Product composition standards and ratings.
I will research information now on biosolids.
Should state the negative factors of biosolids so that a balanced opinion can be pondered.
There have been several things that happened out at Tesoro refinery lately. I hope it is being investigated. The odor one evening was so bad it set off alarm in our motor home.
Can the "biosolids" be purchased for home (balcony) gardening? Where can I get it?
Good luck on project.

For more information about these survey results, please contact:

Caitlin Price Youngquist
 Ph.D. Candidate
 Department of Crop and Soil Sciences
 Washington State University
 Northwestern Washington Research & Extension Center
 Mount Vernon, WA 98273
 Email: pricecm@wsu.edu
 Phone: (360) 848-6120

This report is available on the WSU Biosolids Management page:
<http://puyallup.wsu.edu/soilmgmt/Biosolids.html>