May 2, 2022

Washington State Board of Health
PO Box 47990
Olympia, WA 98504-7990

Dear WA State Board of Health,

We are the Friends of Toppenish Creek from Yakima County.

Friends of Toppenish Creek is dedicated to protecting the rights of rural communities and improving oversight of industrial agriculture. FOTC operates under the simple principle that all people deserve clean air, clean water and protection from abuse that results when profit is favored over people. FOTC works through public education, citizen investigations, research, legislation, special events, and direct action.

We appreciate your hard work on WAC 246-203-130, especially the comprehensive paper, "Keeping of Animals". The documentation of health impacts deserves close attention.

1. In 2013 Davis et al found higher rates of campylobacteriosis in Whatcom and Yakima Counties, the WA counties with the highest concentrations of dairies and dairy animals. * Please add this research to your literature review.

2. Unfortunately, the document "Keeping of Animals" is no longer up to date. Since 2018:
   a) The WA Legislature has approved the HEAL Act and the Climate Commitment Act.
   b) Staff at the WA State Dept. of Agriculture have discounted the value of Tech Note 23 assessments for manure lagoons.
   c) Ecology has not completed a plan for nonpoint source pollution as promised.
   d) There is even more data that documents egregious pollution of WA aquifers by concentrated animal feeding operations (CAFOs).
   e) The Yakima Regional Clean Air Agency (YRCAA) has rescinded their Air Quality Management Policy for Dairies.

f) People who live in areas with high levels of fine particulate matter from CAFO emissions have suffered higher than average rates of morbidity and mortality from COVID 19.

g) The WA State Court of Appeals ruled that the WA Pollution Control Hearings Board erred. Ecology's 2017 National Pollutant Discharge Elimination System (NPDES) permit does not protect waters of WA State.

Below is a more thorough analysis of "Keeping of Animals" that explains the need for updates, followed by a critique of BOH's Cost Benefit Analyses.

3. RCW 43.20.050 (c) states, "the State Board of Health shall . . . adopt rules and standards for prevention, control, and abatement of health hazards and nuisances related to the disposal of human and animal excreta and animal remains". We find no authority to delegate this duty to either the WA State Dept. of Agriculture or the WA State Dept. of Ecology. In fact, neither of these agencies are qualified to address human health.

4. RCW 34.05.310 addresses negotiated rule making. We are not sure whether the actions leading up to this draft rule constitute negotiated rule making or not. We do know that the BOH convened two stakeholder meetings in 2019 to discuss the rule. There were more advocates just for the dairy industry than advocates for the citizens. The beef industry brought their lobbyists as well. Only FOTC argued for protection of CAFO neighbors. Everyone at the table was Caucasian.

   If this is negotiated rule making, there are insufficient protections to ensure that other agencies will do their part to protect public health. Currently Ecology and WSDA have the power to control air and water pollution, but they do not use that power, so air and water pollution from dairies continue. There are no memoranda of understanding to guarantee cooperation and collaboration.

Sincerely,

Jean Mendoza

Jean Mendoza

Executive Director, Friends of Toppenish Creek
3142 Signal Peak Road
White Swan, WA 98952

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[*] Davis, M. A., Moore, D. L., Baker, K. N., French, N. P., Patnode, M., Hensley, J., ... & Besser, T. E. (2013). Risk factors for campylobacteriosis in two Washington state counties with high numbers of dairy farms. *Journal of clinical microbiology*, *51*(12), 3921-3927. Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3838072/

KEEPING OF ANIMALS Background and Policy Recommendations of the Washington State Board of Health for Revising WAC 246-203-130

https://sboh.wa.gov/sites/default/files/2022-01/KeepingOfAnimals-FinalReport.pdf

Pages 4 & 15:

Regulation of livestock manure, commercial animal feeding operations, and other domestic animal waste in Washington to protect water and air quality is framed mainly around the following:

- *Dairy licensing*
- *National Pollutant Discharge Permits*
- *Nonpoint source pollution prevention*
- *Local ordinances*
- *Air quality control by Ecology and local air agencies*

Response:
WA dairies are required to have nutrient management plans, but they are not required to follow them.[1] See "Keeping of Animals" page 15 that says, "The law does not require producers to follow the (nutrient management) plans."

Dairies are only inspected every 18 – 22 months and the inspections focus on what is written on paper, not on what is happening on the dairy. There is only one WSDA inspector for all Eastern Washington where 2/3 of WA milk cows are housed.

Less than 10% of WA dairies have NPDES permits. Permitted dairies in Yakima County apply manure in quantities that greatly exceed agronomic rates.[1]

Ecology has yet to complete a nonpoint source pollution plan for the state. Ecology has worked on nonpoint source pollution since 2015 and is nowhere completion.[3]

Local ordinances are almost non-existent and are not enforced by local agencies, at least not in Yakima County.[4]

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[1] Reports available on the Ecology PARIS website at https://apps.ecology.wa.gov/paris/PermitLookup.aspx

[2] See Attachment 1

[3] Ecology Voluntary Water Guidance for Agriculture at https://ecology.wa.gov/About-us/Accountability-transparency/Partnerships-committees/Voluntary-Clean-Water-Guidance-for-Agriculture-Adv

[4] See Attachment 2 – Email from the Yakima Health District re enforcement of Solid Waste Manure Composting rules

The Yakima Regional Clean Air Agency (YRCAA) rescinded an Air Quality Management Policy for Dairies in 2019. The YRCAA does not investigate air quality complaints against dairies and has never issued a notice of violation of odor or dust.[5] Washington CAFOs do not report hazardous air emissions.
The summary in "Keeping of Animals" gives the impression that other WA agencies address pollution from WA CAFO dairies. This is incorrect.[6]

Page 10:

> *The Lower Yakima Valley is similarly plagued by high nitrate levels in drinking water that are closely associated with significant numbers of farm animals and large animal feeding operations. Yakima County has the most dairy cows in the state (WSDA, 2011). About a third of the Lower Yakima Valley uses private, unregulated wells for drinking water. Between 10 and 20% of these wells have nitrate concentrations that exceed the national and state drinking water standard (USEPA, 2012b).*

In 2018-2019 the Lower Yakima Valley Groundwater Management Area drilled 30 monitoring wells evenly spaced throughout the Lower Yakima Valley (LYV). At the time of drilling 45% of the wells had nitrate levels above 10 mg/L. Beginning in 2021 Ecology began sampling the monitoring wells to establish a baseline for the area. In the first two 2021 samplings 45% of the samples were above 10 mg/L.[7, 8]

The EPA has studied nitrate levels in dedicated monitoring wells on a cluster of LYV dairies. The highest reading in the EPA studies is 234 mg/L.[9]

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[5] Arguments for Dissolving the Yakima Regional Clean Air Agency at http://www.friendsoftoppenishcreek.org/cabinet/data/FOTC%20Arguments%20for%20Dissolving%20the%20YRCAA.pdf

[6] Ecology and WSDA knew about pollution on a cluster of Lower Yakima Valley dairies for years, but gave the dairies glowing reports while the dairies applied manure to cropland at up to seven times agronomic rates. See Attachment 3.

[7] LYV GWMA Initial Ambient Groundwater Monitoring Well Report at https://www.yakimacounty.us/DocumentCenter/View/21633/GWAC-Presentation---Monitoring-Well-Report-Overview---2019620-v20-1

[8] WA Ecology Environmental Information Management System Data Base Groundwater Data at https://apps.ecology.wa.gov/eim/search/Groundwater/GWSearch.aspx?SearchType=Groundwater&State=newsearch&Section=all

[9] EPA Region X LYV Groundwater Fact Sheet 2014 Yakima Dairies Consent Order Update at https://www.epa.gov/sites/default/files/2017-12/documents/lower-yakima-valley-groundwater-fact-sheet-december-2014.pdf

Page 15:

> *WSDA has conducted lagoon inspections in the Yakima Valley based on the site inventory and assessment procedure of Natural Resources Conservation Service (NRCS) Tech Note 23. Between 2015 and 2017, WSDA inspected most dairy lagoons in the Yakima Valley with a minimum of two site visits, to evaluate the lagoons when full and when empty. The lagoons are scored on criteria (e.g., soil type, aquifer susceptibility, proximity to water bodies, compliance with design standards) and ranked on a risk probability matrix for site risk and seepage/structure risk. The evaluations are being carried out in concert with the CAFO permit, giving facilities with high risks two years to develop and implement plans to address the deficiencies.*

WSDA now says that the Tech Note 23 Inspections re invalid. WSDA has not completed Tech Note 23 Inspections outside Yakima County as promised. Tech Note 23 Inspections in Yakima County are missing essential data and those dairies with high risk lagoons have not developed and implemented plans to address the deficiencies as stated in "Keeping of Animals"[10]

Page 16:

> *Any commercial or industrial operation that discharges waste material to state waters is required to have a permit from Ecology.*

This is simply not true. Two dairies in the LYV dairy cluster that have well documented discharges are not covered by NPDES permits.[11]

> *Discharges are allowed in limited situations and cannot violate water quality standards or impair other uses of the waters.*

Many dairies in Whatcom County are located in flood plains. Manure from these dairies flowed into the floodwaters of the Nooksack River in 2021. Taxpayers spent hundreds of thousands of dollars to help Whatcom County dairies pump manure from lagoons that were at risk of overtopping during the 2021 floods.[12]

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[10] See Ecology and WSDA Do Not Inspect Manure Lagoons at http://www.friendsoftoppenishcreek.org/issues/water.html

[11] The EPA has found egregious pollution from crop land and from unlined manure lagoons on the Henry Bosma Dairy and the Liberty Dairy in the LYV dairy cluster. Neither of these dairies has an NPDES permit.

[12] Verbal communication from Laura Watson, Director of the WA Dept. of Ecology at the April meeting of Ecology's Ag and Water Quality Advisory Committee.

> *Decision on CAFO Permit Appeal On October 25, 2018, the Washington State Pollution Control Hearings Board (PCHB) issued an order on an appeal of the CAFO permits by a number of organizations on all sides of the issue. The order upheld and affirmed the permits with the exception of a condition associated with lagoon assessments. Ecology is expected to reissue the permits consistent with the order (WSPCHB, 2018).*

A coalition of environmental groups successfully appealed the PCHB decision to the WA State Court of Appeals. In 2021 the Court of Appeals ruled that the 2017 NPDES permits for CAFOs do not protect waters of the state.[13]

> *Ecology and WSDA jointly administer CAFO permits and also work cooperatively on the Dairy Nutrient Management Program and Agricultural Nonpoint Source Program. The agencies are guided by a Memorandum of Understanding (MOU) that was last updated in 2011.*

The referenced MOU protects WA dairies from enforcement of the Clean Water Act. The WSDA Dairy Nutrient Management Program (DNMP) hardly ever documents a discharge to waters of the state. Consequently, there is no justification for requiring a dairy to obtain an NPDES permit. The DNMP typically states that a dairy complies with best management practices (BMPs) although WSDA and Ecology state that there is no approved list of BMPS for dairies.[14]

Page 19:

> *Ecology is currently undertaking a major project to develop voluntary clean water guidance for agricultural activities. The project aims to identify agricultural practices that are most effective in addressing nonpoint source impacts and achieving compliance with water quality standards. Impetus for the project is federal law, specifically the Clean Water Act and Coastal Zone Act Reauthorization Amendments of 1990, which require the agency to identify suites of practices for different sources of nonpoint pollution. The project is part of Ecology's 2015 Nonpoint Source Pollution Plan. The planning, stakeholder involvement, and technical analysis are expected to take a couple years (WSDOE, 2015b, 2015c, 2017).*

After at least seven years Ecology's nonpoint source plan is nowhere near completion.[3]

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[13] Puget Soundkeeper et al v. WA Ecology 2021, available at http://www.friendsoftoppenishcreek.org/cabinet/data/D2%2052952-1-II%20PUBLISHED%20OPINION%20(2).pdf

[14] WSDA & Ecology Memorandum of Understanding – A Chain of Errors, available at http://www.friendsoftoppenishcreek.org/cabinet/data/MOU%20Problems%20and%20Sequelae.pdf

Page 20:

> *RCW 7.48.305 explains that agricultural activities that are consistent with good practices and that conform with all applicable laws and rules are assumed to be reasonable and do not constitute nuisance unless the activity has a substantial adverse effect on public health and safety.*

In Yakima County officials have never investigated the adverse public health effects of agricultural activities such as:

- Polluting groundwater
- Polluting surface waters and contaminating fish
- Polluting the air with particulate matter, ammonia, hydrogen sulfide, volatile organic compounds, ozone, methane, and nitrous oxide. [5]

Because there are no documented impacts officials refuse to take actions against allegedly "good agricultural practices" such as:

- Composting hundreds of dead cows in small areas
- Composting manure in the pens where cows live
- Discharging pollutants into aquifers that people access for drinking water.[5]

Morbidity and mortality from COVID 19 are well above the state average in Yakima County. Harvard University has documented a relationship between counties with high levels of particulate matter and deaths from COVID 19.[15]

> *Chapter 35.88 RCW applies to protection of public water supplies and explains that animal operations such as hog pens and feed yards that pollute municipal water supplies, storage, or conveyance are illegal and should be abated as nuisance.*

The Outlook Elementary School in Yakima County had to drill two new wells due to nitrate contamination. The only likely source of this pollution is nearby dairies with well documented discharge to groundwater. Officials took no actions against the dairies but simply expected taxpayers to cover the expense of drilling new wells.

The City of Mabton has been forced to drill several new municipal wells due to a falling aquifer and nitrate contamination that reached 20 mg/L. Officials took no actions against upgradient dairies but simply expected taxpayers to cover the expense of drilling new wells.

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[5] Arguments for Dissolving the Yakima Regional Clean Air Agency at http://www.friendsoftoppenishcreek.org/cabinet/data/FOTC%20Arguments%20for%20Dissolving%20the%20YRCAA.pdf

[15] COVID 19 Incidence and Death Rates for Yakima County, available at http://www.friendsoftoppenishcreek.org/cabinet/data/COVID%2019%20Demographics%20for%20Yakima%20County%20IV.pdf

RCW 70.54.010 and RCW 90.48.080 respectively make it illegal to deposit anything deleterious that affects public water supplies or to discharge polluting matter to waters of the state.

Dairy discharges to waters of the state are well documented, yet Ecology does nothing to stop this illegal activity.

Chapter 70.95 RCW sets requirements for solid waste management, which extends to animal waste and includes provisions that prohibit dumping or depositing waste in waters of the state or creating a nuisance. Companion solid waste handling standards, chapter 173-350 WAC, exempt land application of manure if applied at agronomic rates. If piled, over-applied, or otherwise mismanaged to create a problem, manure can be regulated as a solid waste.

Over application of manure to cropland is well documented, yet WSDA and Ecology do nothing to stop this illegal activity.[1, 2, 6, 9]

Page 21:

King County first adopted its livestock management ordinance in the mid1990s. The purpose of KCC 21A.30, sections 040 – 075, is to support the raising and keeping of livestock and to minimize impacts on water quality and salmon habitat. The code also regulates small animals. The code regulates lot size, livestock densities, farm planning, and management practices to prevent nonpoint pollution. The management standards include many requirements for manure storage and spreading. Section 122 of KCC 21A.12 complements this with a manure storage setback of 35 feet from the property line. Commercial dairies are exempt and must meet the requirements of DNMP (King County, 2009, 2013).

The Keller Dairy in King County, located next to the Snoqualmie River, spreads manure within 10 feet of the river, according to their manure pollution prevention plan (MPPP).

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[1] Reports available on the Ecology PARIS website at https://apps.ecology.wa.gov/paris/PermitLookup.aspx

[2] See Attachment 1

[6] Ecology and WSDA knew about pollution on a cluster of Lower Yakima Valley dairies for years, but gave the dairies glowing reports while the dairies applied manure to cropland at up to seven times agronomic rates. See Attachment 3.

[9] EPA Region X LYV Groundwater Fact Sheet 2014 Yakima Dairies Consent Order Update at https://www.epa.gov/sites/default/files/2017-12/documents/lower-yakima-valley-groundwater-fact-sheet-december-2014.pdf

See the Keller Manure Pollution Prevention Plan, page 11/22 that says:

> *In addition to using the MSA and ARM tools year-round, the appropriate seasonal setback distance will be utilized when applying manure. These seasonal setbacks are based on scientific studies which recommend specific distances for sediment and nutrient removal based on seasonal precipitation, soil saturation conditions, and surface runoff potential. This includes a more robust setback during the high risk months of October 1-February 28 of 100 feet, reduced to 40 feet from March 1-May 31 and September 1-September 30 when soils are drying, and 10 feet in the dry summer months of June 1-August 31 when precipitation is minimal and soils dry. The following table lists the appropriate setback distances per season.*[16]

Page 24:

> *Registration and Reporting: Feedlots with 1,000 or more cattle in operation between June 1 and October 1 are required to register with Ecology or their local air agency under WAC 173-400-099 to WAC 173-400-104, report emissions of certain criteria and toxic air pollutants, and undergo inspections every one to three years. Emissions are estimated based on the size, processes, and pollution controls of the animal feeding operation. Ecology recently conducted a comprehensive literature review and issued revised emissions factors for cattle feedlots in 2016.*

Are dairies classified as feedlots? None of the 50 CAFO dairies in Yakima County register as sources of air pollution, or report emissions of air pollutants. There are about 100,000 milk cows in a 273 square mile area in the Lower Yakima Valley (LYV).

> *Controlling Fugitive Emissions, Dust, and Odor: Under RCW 70.94.640, odors or fugitive dust from animal feeding operations that are applying BMPs*[17] *are exempt from the requirements of the state Clean Air Act unless they have a substantial adverse effect on public health. Feedlots with 1,000 or more cattle are included in this agricultural activity exemption except they must:*
> *• Follow BMPs*[17] *and develop and implement a fugitive dust control plan;*
> *• Comply with the State Implementation Plan (SIP) for air quality; and*
> *• Additional controls may be required as part of the SIP if an area is designated as nonattainment for particulate matter under national ambient air quality standards (NAAQS).*

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[16] Manure Pollution Prevention Plan (MPPP) Keller Dairy, page 11/22, available at file:///C:/Users/Jean%20Mendoza/Downloads/2020-07-28%20MPPP%20(5).pdf

[17] According to WA Ecology there are no approved best management practices for WA dairies. See Attachment 4.

Ecology or the appropriate local air agency review and approve fugitive dust control plans, inspect sources, respond to complaints, provide compliance assistance, and may issue enforcement actions. In 1995, Ecology issued guidelines on fugitive dust control for beef cattle feedlots and best management practices. These guidelines are included in the SIP to help the state meet and maintain the NAAQS and protect public health. Yakima Regional Clean Air Agency has also established policies and BMPs for animal feeding operations in their jurisdiction, specifically for dairy operations, confined heifer replacement feeding operations, and confined beef cattle feeding operations. As an added note, Ecology is working to interpret and implement changes to RCW 70.94.640 made in the 2017 legislative session by SSB 5196 (C 217, L 17) that extend the Clean Air Act exemption for odor and fugitive dust caused by agricultural activities to cattle feedlots. This will change aspects of the regulatory structure when finalized.

Washington law requires Ecology to approve a list of best management practices for CAFOs. Friends of Toppenish Creek submitted public records requests for a listing of these BMPS in 2021. Both Ecology and WSDA replied that there are none.[17]

The Yakima Regional Clean Air Agency rescinded their policy for dairies in 2019. The YRCAA does not investigate complaints regarding odor and dust from dairies.[5]

Page 25:

Capitalize on Local Health Authority The rule should capitalize on the authority and responsibility of local health boards and local health officers under chapter 70.05 RCW. This includes authority to:

• Supervise the maintenance of all health and sanitary measures;

• Enact and enforce local regulations as needed to preserve, promote, and improve public health; and

• Provide for the prevention, control, and abatement of nuisances detrimental to public health.

In response to a 2021 public records request the Yakima Health District informed FOTC that the YHD does not enforce WAC 173-350-220 with respect to manure composting facilities.

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[5] Arguments for Dissolving the Yakima Regional Clean Air Agency at http://www.friendsoftoppenishcreek.org/cabinet/data/FOTC%20Arguments%20for%20Dissolving%20the%20YRCAA.pdf

[4] See Attachment 2 – Email from the Yakima Health District re enforcement of Solid Waste Manure Composting rules

Leave Regulation of Large Animal Feeding Operations to Established Programs
WSDA manages the Dairy Nutrient Management Program and Ecology and WSDA co-manage the CAFO permit. For many reasons, the programs are complicated and hard to implement. Despite the challenges, the two agencies are best positioned to regulate the state's large commercial animal feeding operations given their legal authorities, expertise, resources, and support from many partner agencies. The same holds true for regulation of air emissions by Ecology and the local air agencies. In keeping with the preceding recommendations, the Board's rule should avoid duplicating core work of these programs and should aim to support these existing state programs with complementary authority and functions.

We have shown that Ecology and WSDA have failed to protect the environment from water and air pollution related to CAFO dairies. These agencies barely talk about human health. Leaving implementation of public health to Ecology and WSDA is a recipe for failure.

Page 4:

> *NAICS Code 1121, Description "Cattle Ranching and Farming", # of businesses in WA "534", MCT (1% average annual payroll) "$3,657.58", MCT (0.03% annual receipts) "$3,864.14"*

We believe the cost estimates in this category that includes the multi-million dollar dairy industry, are inaccurate. We do not believe that the payroll for veterinary services exceeds the payroll for dairies as stated in the Economic Impact Statement.

Page 16:

> *WAC 246-203-130(3)(d)(iii)(D)(II) Site stockpiled livestock waste one hundred feet or more from a surface water body unless the surface water body is protected by one or more control or treatment practices that capture and prevent leachate and runoff.*
>
> *Description: If waste from livestock is stockpiled for later use or disposal, this proposed exception to WAC 246-203-130(3)(d)(iii)(D) allows people to site stockpiles closer than one hundred feet of a surface water body if practices are applied to mitigate runoff and leachate. This can include practices to mitigate stockpiles such as covers and pads, or alternate methods of storing stackable waste, such as stacking and composting structures.*
>
> *Common conservation practices for stackable waste include the following, listed by NRCS code. Practices can be applied individually or in combination. Practices may or may not be designed and constructed to NRCS standards but should always be designed to account for anticipated storage needs, surface loads, drainage, and possible seepage.*

This section fails to inform the reader that the definition of "stockpiling" in the draft WAC 246-203-130 exempts manure composting and manure lagoons from the definition. In Yakima County there are over 500 acres of manure compost on bare ground.[18] In Yakima County there are over 200 acres of manure lagoons, and most are simply "clay lined" which means they are lined with compacted soil.[18] Leaching from these lagoons is significant and well documented.[19]

WAC 246-203-130 does not sufficiently address groundwater pollution or air pollution.

NRCS standards are guidelines and non-enforceable.

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[18] Lower Yakima Valley Groundwater Management Area Nitrogen Availability Assessment at https://www.yakimacounty.us/2131/Nitrogen-Availability-Assessment

[19] Bosma Dairy Lagoon 3 shows massive nitrogen loadings leading to ground water contamination, available at http://charlietebbutt.com/files/CAFOs/Bosma%20Lagoon%203%20Abandonment%20Plan_20220118.pdf

Attachment 1: Reports available on the Ecology PARIS website at https://apps.ecology.wa.gov/paris/PermitLookup.aspx

Annual NPDES reports from DBD Dairy 2018 to 2021

TABLE 3: Adaptive Management Actions (Fall 2018) DBD Washington, LLC

Field Risk Level	Field	Nitrate at 2'	Required Actions	Required Actions Based Upon Trends	Comments
Low Fall Soil Test Nitrate Range: • Less than 15 ppm • Less than 55 lbs/acre	24	10	None	None	Canal break resulted in no water for 1.5 weeks, resulting in loss of yield.
	Old Mint	3			
Medium Fall Soil Test Nitrate Range: • 15-30 ppm • 55-110 lbs/acre	01B	17	Continue with agronomic rate	None	Canal break resulted in no water for 1.5 weeks, resulting in loss of yield.
	02EC	18			
	08-11B	27			
High Fall Soil Test Nitrate Range: • 31-45 ppm • 111-165 lbs/acre	02EB	45	• 3' samples to be taken next fall. • Re-evaluate agronomic rate.	None	Canal break resulted in no water for 1.5 weeks, resulting in loss of yield.
	07	45			
	08-11C	46			
	21	42			
	22CP	39			
	23	36			
Very High Fall Soil Test Nitrate Range: • More than 45 ppm • More than 165 lbs/acre	01C	117	• 3' samples to be taken next fall. • Reduce application (evaluate agronomic rate). • Get approval of nutrient budget from DOE.	None at this time	Canal break resulted in no water for 1.5 weeks, resulting in loss of yield. Some fields have produced residual ppm levels that are well above what would typically be expected given the applied manure rates.
	02NWB	65			
	02SWB	52			
	02WC	67			
	03B	161			
	03C	140			
	04	64			
	05	65			
	06	54			
	22SS	63			
	25	48			

TABLE 3: Adaptive Management Actions (Based on Fall-2019 data)
DBD WASHINGTON, LLC

Field Risk Level	Field	Nitrate at 2'	Required Actions	Required Actions based upon Trends	Comments
Low Fall Soil Test Nitrate Range • Less than 15 ppm • Less than 55 lbs/acre	Old Mint	1.7	None.		
Medium Fall Soil Test Nitrate Range • 15-30 ppm • 55-110 lbs/acre	01 C	30.3	Continue with agronomic rate.		
	08-11 C	18.8			
	22 SS	21.9			
	25	19.3			
High Fall Soil Test Nitrate Range • 31-45 ppm • 111-165 lbs/acre	02 EC	38.3	Adjust application timing. 3' fall soil sampling. Adjust application rates	None at this time	
	04	40.5			
	06	40.1			
	07	39.6			
	23	32.3			
	24	38.8			
Very High Fall Soil Test Nitrate Range • More than 45 ppm • More than 165 lbs/acre	01 B	62.3	Adjust application timing. 3' fall soil sampling. Reduce application rate Get DOE approval for nutrient budgets.	None at this time	Emergency applications in 2019 are the main reason for the higher residual nitrate levels
	02 EB	67.5			
	02 NWB	94.1			
	02 SWB	48.5			
	02 WC	56.6			
	03 B	132.7			
	03 C	143.5			
	05	47.7			
	08-11 B	53.4			
	21	50.4			
	22 CP	50.2			

3. Adaptive Management Actions DBD, WA **Fall 2020**					
Field Risk Level	**Field**	**Nitrate at 2'**	**Required Actions**	**Required Actions Based Upon Trends**	**Comments**
Low Fall Soil Test Nitrate Range: • Less than 15 ppm • Less than 55 lbs/acre	23	14.3			
	25	8.0			
	Old Mint	5.5			
Medium Fall Soil Test Nitrate Range: • 15-30 ppm • 55-110 lbs/acre	06	28.9			
	07	24.2			
	22 SS	16.6			
	24	29.0			
High Fall Soil Test Nitrate Range: • 31-45 ppm • 111-165 lbs/acre	01 C	43.9	The nutrient budgets will be adjusted downward		
	02 EC	41.2			
	02 SWB	33.5			
	05	40.8			
Very High Fall Soil Test Nitrate Range: • More than 45 ppm • More than 165 lbs/acre	01 B	50.7	The following fields will receive limited to no application until the values come down. Values are down from 2019.		
	02 EB	65.1			
	02 NWB	50.0			
	02 WC	54.7			
	03 B	164.9			
	03 C	193.3			
	04	48.2			
	08-11 B	95.5			
	08-11 C	126.5			
	21	66.1			
	22 CP	62.5			

3. Adaptive Management Actions **DBD, WA Fall 2021**					
Field Risk Level	**Field**	**Nitrate at 2'**	**Required Actions**	**Required Actions Based Upon Trends**	**Comments**
Low Fall Soil Test Nitrate Range: • Less than 15 ppm • Less than 55 lbs/acre	Field 07	11.0	None		
	Field 22 SS	5.1			
	Field 25	5.3			
	Old Mint	12.6			
Medium Fall Soil Test Nitrate Range: • 15-30 ppm • 55-110 lbs/acre	Field 02 EC	15.5	None		
	Field 05	25.3			
	Field 06	16.9			
	Field 08-11 C	23.0			
	Field 23	25.3			
High Fall Soil Test Nitrate Range: • 31-45 ppm • 111-165 lbs/acre	Field 01 B	41.0	No application for 2022		
	Field 01 C	36.6	Reduced application		
	Field 02 EB	33.0	No application for 2022		
	Field 02 WC	44.8	No application for 2022		
	Field 24	43.5	Reduced application		
Very High Fall Soil Test Nitrate Range: • 45 ppm • More than 165 lbs/acre	Field 02 NWB	71.7	No application for 2022		Fields in the High to Very High risk levels continue to
	Field 02 SWB	45.5	No application for 2022		decrease as in 2019 there were 17 total fields in these
	Field 03 B	106.0	No application for 2022		categories and in 2020 there were 15 and now in 2021
	Field 03 C	214.7	No application for 2022		there are 13.
	Field 04	56.0	No application for 2022		
	Field 08-11 B	69.8	No application for 2022		
	Field 21	54.6	No application for 2022		
	Field 22 CP	52.9	No application for 2022		

Annual NPDES reports from Sunnyside Dairy 2019 to 2021

TABLE 3: Adaptive Management Actions (Based on Fall-2019 data)
Sunnyside Dairy

Field Risk Level	Field	Nitrate at 2'	Required Actions	Required Actions based upon Trends	Comments
Low Fall Soil Test Nitrate Range • Less than 15 ppm • Less than 55 lbs/acre	70 ac Pivot 02 Karl's	5.3	None.	No trends have been established.	
	Airport 02	9.1			
	Airport 03	4.8			
	P01	13.7			
	P02	12.6			
	P03	3.1			
	Tom 03 70 ac	5.5			
Medium Fall Soil Test Nitrate Range • 15-30 ppm • 55-110 lbs/acre	70 ac Pivot 01 Karl's	23.6	None.	No trends have been established.	
	70 ac Pivot 03 Karl's	22.7			
	Airport 01	25.0			
	Case	21.1			
	Field 01	18.9			
	Field 02	17.7			
	Field 03 CP	25.6			
	P05	18.0			
	Tom 01	28.4			
	Tom 02	30.7			
High Fall Soil Test Nitrate Range • 31-45 ppm • 111-165 lbs/acre	Field 04	38.9	Adjust application timing. 3' fall soil sampling. Document reasons for higher residual.	No trends have been established.	
	Little Dairy E	35.7			
	Little Dairy N	32.3			
	P04	36.9			
	Wade's 02	33.5			
Very High Fall Soil Test Nitrate Range • More than 45 ppm • More than165 lbs/acre	60 ac	125.8	Adjust application timing. 3' fall soil sampling. Document reasons for higher residual. Get DOE approval for nutrient budgets.	No trends have been established.	
	100 ac	62.7			
	Field 03 Linear	51.3			
	Field 05	66.4			
	Guerra	80.4			
	Little Dairy W	62.2			
	Orchard	65.3			
	Rick	88.3			
	Wade's 01	48.9			
	Wade's 03	181.6			

TABLE 3: Adaptive Management Actions Sunnyside Dairy 2020 Fall
Sunnyside Dairy

Field Risk Level	Field	Nitrate at 2'	Required Actions	Required Actions based upon Trends	Comments
Low Fall Soil Test Nitrate Range • Less than 15 ppm • Less than 55 lbs/acre	70 ac Pivot 02 Karl's	4			
	Airport 01	3			
	Airport 03	4			
Medium Fall Soil Test Nitrate Range • 15-30 ppm • 55-110 lbs/acre	60 ac	24.6			
	100 ac	29.8			
	Airport 02	15			
	Field 01	22			
	Field 02	24			
	Field 03 CP	16			
	Little Dairy N	17			
	Little Dairy W	26.1			
	P05	30			
	Tom 03 70 ac	15			
	Wade's 01	22.5			
	Wade's 02	22			
High Fall Soil Test Nitrate Range • 31-45 ppm • 111-165 lbs/acre	Case's	31	Nutrient budgets will be adjusted downward		
	Field 04	37			
	Little Dairy E	34			
	P01	15			
	P02	20			
	P03	44			
	Rick's	35.5			
	Tom 01 N	38			
Very High Fall Soil Test Nitrate Range • More than 45 ppm • More than165 lbs/acre	70 ac Pivot 01 Karl's	60	Nutrient budgets will be adjusted downward. Some fields will not receive nutrient.		
	70 ac Pivot 03 Karl's	52			
	Field 03 Linear	56			
	Field 05	48			
	Guerra	53.6			
	Orchard	70			
	P04	59			
	Tom 02 W	66			
	Wade's 03	92.9			

TABLE 3: Adaptive Management Actions Sunnyside Dairy 2021 Fall					
Sunnyside Dairy					
Field Risk Level	**Field**	**Nitrate at 2'**	**Required Actions**	**Required Actions based upon Trends**	**Comments**
Low Fall Soil Test Nitrate Range • Less than 15 ppm • Less than 55 lbs/acre	60 ac	7.9	None		
	70 Pivot 01 Karl's	8.6			
	100 ac	10.3			
	70 ac Pivot 01 Karl's	8.6			
	70 ac Pivot 02 Karl's	8.0			
	Field 01	9.0			
	Orchard	13.4			
	Tom 01 N	11.8			
	Case's	12.3			
	Tom 03 70 ac	5.6			
	Airport 01	3.4			
	Airport 03	7.5			
Medium Fall Soil Test Nitrate Range • 15-30 ppm • 55-110 lbs/acre	Wade's 02	15.4	None		
	70 ac Pivot 03 Karl's	19.2			
	Field 02	22.5			
	Field 03 CP	23.7			
	Rick's	15.7			
	Tom 02 W	19.3			
	Field 05	28.5			
	Guerra	17.6			
	Little Dairy E	16.0			
	Little Dairy N	20.1			
	Little Dairy W	24.6			
	P 01	23.3			
	P 02	28.2			
	P 03	21.9			
	P 05	21.9			
High Fall Soil Test Nitrate Range • 31-45 ppm • 111-165 lbs/acre	Field 03 Linear	38.4	Reduce application	Watch Field 03 Linear and Field 04 as two years in High or Very High	
	Field 04	31.8			
	Wade's 01	39.4			
Very High Fall Soil Test Nitrate Range • More than 45 ppm • More than165 lbs/acre	Wade's 03	54.8	Reduce application	Watch P04 and Wade's 03 as two years in High or Very High	
	Airport 02	49.4			
	P 04	58.3			

Attachment 2:
Email from Shawn Magee at the Yakima Health District, October 20, 2021:

Follow-Up Info for Public Records Request Email 1 of 2

Good Afternoon Ms. Mendoza,

Below is a the response to the question you asked in a follow-up email for the records request you submitted. Also, attached are the records we have for your follow-up request.

Please note that many facilities, including exempt composters, are supposed to submit a notice of intent – many have not. Also, many facilities, including exempt composters, are supposed to submit an annual report – many have not. These records are from 2010-present.

. . . . . .

Shawn Magee, R.S.

Environmental Health Director

Yakima Health District

Office: (509) 249-6533

Attachment 3: Soil Nitrate Reports from George DeRuyter & Son Dairy

AGRIMANAGEMENT® INC.
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AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

George DeRuyter & Sons (Y281)

F13-0600
7570

Field: GDS-SU-02 ***Acres:*** 99.1 ***Sample Date:*** 10/17/2013

Crop: Triticale-Sudan ***Irrigation:*** Wheel line ***Previous Crop:*** 2013 Alfalfa

Current Crop: 2014 Triticale Sudan

Soil series: Scoon silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 30

Topography: Gently undulating ***Avg Sampling Depth:*** 3.0

Restrictive layer? Y ***Where?*** Gravel on the surface, caliche layer.

Residue Incorp? N ***Type?*** Alfalfa cultivated, Triticale-Sudan planted.

Comments: Sampled a three foot field composite. At sampling the Triticale was at 2-4" tall. Volunteer alfalfa, corn, and weeds. Whitish soil color on the knolls and ridges.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	19	85	7	37	1.6	16.20	3.90	1.04	0.30	21.44	19.2	1.25	75%
Field Composite	2'	24	81										1.25	88%
Field Composite	3'	14	49										1.25	81%
		Totals:	195	7	37	1.6								

Comments: The residual nitrates are moderate. Ammonium is in equilibrium. Sulfur is adequate, while boron is possibly marginal. Sodium is favorably lower.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	$P^{(Bray)}$	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	126	405	12.0	1.3	22	1.7	3.5%	7.3	0.35	Yes

Comments: The soil P, K, and Zn are sufficient. Mn is low, while Fe and Cu are sufficient. Organic matter is high. Soil pH is near neutral, while salts are low.

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

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AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

George DeRuyter & Sons (Y281)

F13-0560
7572

Field: GDS-SU-04 ***Acres:*** 135.6 ***Sample Date:*** 10/14/2013

Crop: Triticale-Silage Corn ***Irrigation:*** Center pivot ***Previous Crop:*** 2013 Triticale-Silage corn

Current Crop: 2014 Triticale-Silage corn

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 30

Topography: Gently divided sloping ***Avg Sampling Depth:*** 3.0

Restrictive layer? Y ***Where?*** Some rocks, mainly in the NW corner.

Residue Incorp? N ***Type?*** Scattered cultivation strips.

Comments: Sampled a three foot field composite. Light weed cover. Corn stalk size was normal. Soil surface was dry.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	184	624	7	925	10.8	17.10	4.80	6.79	1.27	29.96	16.0	1.25	90%
Field Composite	2'	166	564										1.25	85%
Field Composite	3'	173	587										1.25	100%
		Totals:	1774	7	925	10.8								

Comments: The residual nitrates are excessive. Ammonium is in equilibrium. Sulfur and boron are very high. Sodium is slightly to moderately elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	$P^{(Bray)}$	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	398	2650	13.5	2.9	31	2.8	3.3%	7.8	2.34	Yes

Comments: The soil P and K are very high, and Zn is high. Mn is low, while Iron and Copper are adequate. Organic matter is high. The soil pH remains alkaline and salts are high.

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

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AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

F13-0540
7575

George DeRuyter & Sons (Y281)

Field: GDS-SU-07 ***Acres:*** 76.6 ***Sample Date:*** 10/9/2013

Crop: Alfalfa ***Irrigation:*** Center pivot ***Previous Crop:*** 2013 Alfalfa

Current Crop: 2014 Alfalfa

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 30

Topography: Gently undulating. ***Avg Sampling Depth:*** 2.6

Restrictive layer? Y ***Where?*** Rocks in scattered sites.

Residue Incorp? N ***Type?***

Comments: Sampled a three foot field composite. Harvested recently. Alfalfa at 2-3" tall with a 50% canopy overall.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	31	104	5	286	5.1	19.90	4.00	1.94	0.72	26.56	16.1	1.25	78%
Field Composite	2'	74	252										1.25	82%
Field Composite	3'	76	257										1.25	74%
		Totals:	613	5	286	5.1								

Comments: Residual nitrates are high. Ammonium is in equilibrium. Sulfur and boron are also high. Sodium is only slightly elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	$P^{P(ox)}$	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	90	757	9.1	1.5	17	2.0	1.9%	7.6	0.48	Yes

Comments: Soil P, K, and Zn are high. Mn is low while Fe and Cu are sufficient. Organic matter is above average. Soil pH is moderately alkaline, while salts are okay.

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

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AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

George DeRuyter & Sons (Y281)

F13-0580
7574

Field: GDS-SU-06 ***Acres:*** 84.5 ***Sample Date:*** 10/16/2013

Crop: Triticale-Silage Corn ***Irrigation:*** Center pivot ***Previous Crop:*** 2013 Triticale-Silage corn

Current Crop: 2014 Triticale-Silage corn

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 32

Topography: Gently undulating ***Avg Sampling Depth:*** 2.7

Restrictive layer? Y ***Where?*** Scattered moderately compacted zones, and rocks at 18-36".

Residue Incorp? N ***Type?*** Light to moderate stalks and weeds.

Comments: Sampled a three foot field composite. Post harvest. Soil surface dry. Scattered light to moderate weeds. Scattered areas with light salts visible on the surface.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	47	161	5	384	6.2	17.00	4.30	3.38	0.70	25.38	17.4	1.25	65%
Field Composite	2'	82	277										1.25	75%
Field Composite	3'	102	348										1.25	70%
		Totals:	786	5	384	6.2								

Comments: Residual nitrates are high. Ammonium is in equilibrium. Sulfur and boron are high. Sodium is slightly elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	$P^{(Olsen)}$	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	162	1320	10.1	1.6	17	2.0	2.5%	7.9	0.74	Yes

Comments: Soil P, K, and Zn are high. Mn is low, while Fe is marginal, and Cu is sufficient. Organic matter is above average. Soil pH is quite alkaline, while salts are only slightly elevated.

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

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AGRIMETRIC SERVICES - MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

F13-0601
7576

George DeRuyter & Sons (Y281)

Field: GDS-SU-08 ***Acres:*** 165.5 ***Sample Date:*** 10/17/2013

Crop: Triticale-Silage Corn ***Irrigation:*** Center pivot ***Previous Crop:*** 2013 Triticale-Silage corn

Current Crop: 2014 Triticale-Silage corn

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 30

Topography: Gentle undulation, south slope. ***Avg Sampling Depth:*** 2.6

Restrictive layer? N ***Where?*** Hard pan starting at about 24".

Residue Incorp? N ***Type?*** Corn stalks still standing.

Comments: Sampled a three foot field composite. Corn stalks were a fair to average in size, weak and strong stalks were mixed throughout the field. Some smut bodies on the remaining stalks. Salts on the soil surface.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	161	549	4	755	9.2	17.10	5.00	7.63	1.27	31.00	17.6	1.25	77%
Field Composite	2'	161	546										1.25	79%
Field Composite	3'	139	472										1.25	74%
		Totals:	1567	4	755	9.2								

Comments: The residual nitrates are high. Ammonium is in equilibrium. Sulfur and Boron are high. Sodium is moderately elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	P^{Olsen}	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	243	2976	13.7	2.2	25	4.0	3.4%	7.7	1.63	Yes

Comments: The soil P, K, and Zn are very high. Mn is low, while Fe and Cu are sufficient. Organic matter is high. Soil pH is alkaline and salts are moderately elevated.

		Other Data				Saturated Paste Extraction	
		(ppm)	(Tons/Ac)				
Sample Area	Depth	Cl	HCO_3	Lime Req	SMP pH	pH	EC mmhos/cm
Field Composite	1'	33					

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

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AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

George DeRuyter & Sons (Y281)

F13-0539
7573

Field: GDS-SU-05 ***Acres:*** 100.6 ***Sample Date:*** 10/9/2013

Crop: Triticale-Silage Corn ***Irrigation:*** Center pivot ***Previous Crop:*** 2013 Triticale-Silage Corn

Current Crop: 2014 Triticale-Silage Corn

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 30

Topography: Gently to moderately undulating. ***Avg Sampling Depth:*** 2.4

Restrictive layer? Y ***Where?*** Rocks throughout at scattered sites.

Residue Incorp? N ***Type?*** Light stalks, partly disked in early fall.

Comments: Sampled a three foot field composite. There had been moderate to heavy weeds in this field.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	263	894	4	972	12.3	17.10	5.10	7.62	1.45	31.27	17.4	1.25	74%
Field Composite	2'	254	864										1.25	72%
Field Composite	3'	263	894										1.25	81%
		Totals:	2652	4	972	12.3								

Comments: Residual nitrates are excessive. Ammonium is in equilibrium. Sulfur and boron are very high. Sodium is moderately elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	$P^{P(ace)}$	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	529	2970	12.8	2.1	17.1	2.6	1.6%	7.7	3.56	Yes

Comments: Soil P, K, and Zn are excessive. Manganese is low, while Iron and Copper are adequate. Soil pH is alkaline, while salts are very high.

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

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AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

F13-0561
7577

George DeRuyter & Sons (Y281)

Field: GDS-SU-09 ***Acres:*** 34.6 ***Sample Date:*** 10/14/2013

Crop: Triticale-Silage Corn ***Irrigation:*** Center Pivot ***Previous Crop:*** 2013 Alfalfa

Current Crop: 2014 Triticale-Silage Corn

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 30

Topography: Split by swale, gently undulating ***Avg Sampling Depth:*** 2.9

Restrictive layer? Y ***Where?*** Some rocks and hard pan.

Residue Incorp? N ***Type?*** Light to moderate crowns.

Comments: Sampled a three foot field composite. The average sampling depth was at 34". At the time of sampling the alfalfa was at 1-3" tall. The soil surface was dry. Weeds were minimal, some dandelion. The soil was very compacted. Water in the swale with grassy vegetation.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	25	84	3	160	4.3	19.40	4.00	2.05	0.61	26.06	14.5	1.25	70%
Field Composite	2'	28	96										1.25	40%
Field Composite	3'	27	92										1.25	50%
		Totals:	272	3	160	4.3								

Comments: Residual nitrates are moderate to high. Ammonium is at equilibrium. Sulfur and boron are plenty high. Sodium is only slightly elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	$P^{(Olsen)}$	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	150	800	8.5	2.5	26	2.0	2.4%	7.5	1.05	Yes

Comments: The soil P, K, and Zn are plenty high. Mn is low, while Fe and Cu are adequate. Organic matter is above average. The soil pH is moderately alkaline, while salts are slightly elevated.

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

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AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

F13-0568
7578

George DeRuyter & Sons (Y281)

Field: GDS-SU-10 ***Acres:*** 38.5 ***Sample Date:*** 10/15/2013

Crop: Alfalfa ***Irrigation:*** Center pivot ***Previous Crop:*** 2013 Triticale-Silage corn

Current Crop: 2014 Alfalfa

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 25

Topography: Gently undulating ***Avg Sampling Depth:*** 3.0

Restrictive layer? Y ***Where?*** Scattered compacted zones at 26-36", caliche in areas.

Residue Incorp? N ***Type?*** Light to moderate residue.

Comments: Sampled a three foot field composite. Post harvest. Very light scattered salts on the surface. Light to moderate weeds. Generally good stalk diameter.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	49	167	2	153	2.2	19.80	3.00	1.85	0.69	25.34		1.25	75%
Field Composite	2'	38	128										1.25	74%
Field Composite	3'	22	74										1.25	72%
		Totals:	369	2	153	2.2								

Comments: The residual nitrates are high. Ammonium is in equilibrium. Sulfur is plenty high, and boron is sufficient. Sodium is slightly elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	$P^{P(ox)}$	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	53	723	4.0	1.2	11	1.1	2.2%	7.8	0.56	Yes

Comments: The soil P, K, and Zn are plenty high. Mn and Fe are low, while Cu is sufficient. Organic matter is above average. Soil pH is moderately alkaline, while salts are favorably lower.

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

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AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

F13-0581
7579

George DeRuyter & Sons (Y281)

Field: GDS-SU-11 ***Acres:*** 8.1 ***Sample Date:*** 10/16/2013

Crop: Alfalfa ***Irrigation:*** Wheel line ***Previous Crop:*** 2013 Triticale-Sudan grass

Current Crop: 2014 Alfalfa

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 18

Topography: ***Avg Sampling Depth:*** 2.7

Restrictive layer? Y ***Where?*** Scattered areas of moderately to significantly compacted soil in the 20-36" range.

Residue Incorp? N ***Type?*** Light Sudan residue.

Comments: Sampled a three foot field composite. Post harvest. Alfalfa planted. Scattered areas of light salts on the surface.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	39	132	9	116	3.6	17.80	4.00	2.32	0.54	24.66		1.25	70%
Field Composite	2'	38	129										1.25	75%
Field Composite	3'	31	104										1.25	80%
		Totals:	365	8	116	3.6								

Comments: Residual nitrates are high. Ammonium is in equilibrium. Sulfur and boron are plenty high. Sodium is only slightly elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	P (Olsen)	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	161	903	10.4	2.3	28	2.8	3.2%	7.6	0.48	Yes

Comments: Soil P, K, and Zn are high. Mn is low, while Fe and Cu are sufficient. Organic matter is high. Soil pH is medium alkaline, while salts are favorably low.

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

AGRIMANAGEMENT® INC.
AGRICULTURAL CONSULTANTS
408 N. 1st St. Yakima, WA 98901
Tel: (509) 453-4851 Fax: (509) 575-1672
Web: agrimgt.com

AGRIMETRIC SERVICES – MEASURING CROP NEEDS FOR GREATER PROFITS

Fertility Report

F13-0527
7580

George DeRuyter & Sons (Y281)

Field: GDS-SU-12 ***Acres:*** 40.5 ***Sample Date:*** 10/7/2013

Crop: Triticale-Silage Corn ***Irrigation:*** Rill ***Previous Crop:*** 2013 Triticale-Silage corn

Current Crop: 2014 Triticale-Silage corn

Soil series: Warden silt loam ***Leach Hazard:*** Low ***No. of Sites:*** 25

Topography: Very gentle to gentle S-SW slope ***Avg Sampling Depth:*** 2.8

Restrictive layer? Y ***Where?*** Compacted soil and rocks in scattered sites.

Residue Incorp? Y ***Type?*** Light stalks.

Comments: Sampled a three foot field composite. Stalk diameter is generally okay. Some small weed patches. Closely planted in the West Half.

		ppm	Mobile Nutrients (lbs/ac)				Exch. / Soluble Bases (meq/100g)						Other Data	
Sample Area	Depth	NO_3	NO_3	NH_4	SO_4	B	Ca	Mg	K	Na	T.B.	CEC	VolWt	%AW
Field Composite	1'	168	570	9	670	3.0	21.30	4.20	1.73	0.59	27.82	16.1	1.25	80%
Field Composite	2'	125	426										1.25	88%
Field Composite	3'	95	322										1.25	95%
		Totals:	1318	8	670	3.0								

Comments: The residual nitrates are high. Ammonium is in equilibrium. Sulfur is high, while boron is sufficient. Sodium is only slightly elevated.

		Immobile Nutrients (ppm)						Chemical Data			
Sample Area	Depth	P^{Pkec}	K	Zn	Mn	Fe	Cu	O.M.	pH	EC mmhos/cm	Eff/Calc.
Field Composite	1'	154	675	6.0	3	26	1.6	3.4%	7.2	1.57	Yes

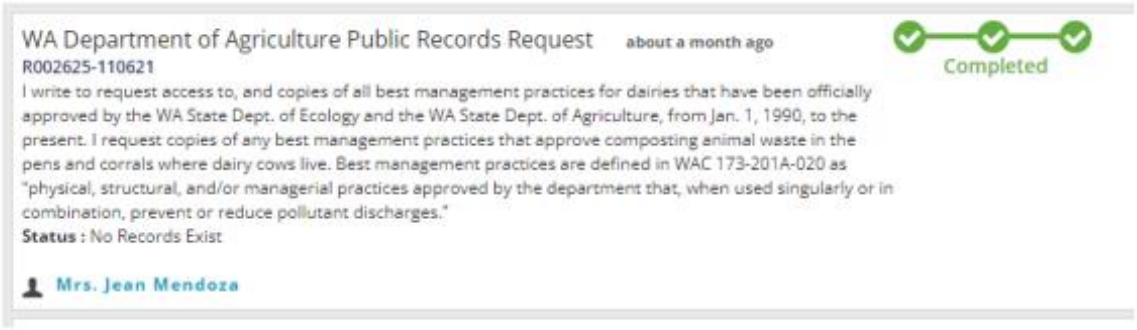
Comments: The soil P, K, and Zn are high. Mn is low, while Fe and Cu are sufficient. Organic matter is high. The soil pH is near neutral, while salts are slightly elevated.

Comments: Given the scattered soil compaction, it is recommended that you could do some ripping. Ripping is best done when the soil profile is slightly moist (as post harvest in the fall).

Fertility and chemical data used here to formulate a recommendation was processed and reported by Soil Test, Inc., and Agrimanagement, Inc. soil lab for deep profile nitrates.

Attachment 4:

WSDA Public Records Request January 2022



WA Department of Agriculture Public Records Request about a month ago

Completed

R002625-110621

I write to request access to, and copies of all best management practices for dairies that have been officially approved by the WA State Dept. of Ecology and the WA State Dept. of Agriculture, from Jan. 1, 1990, to the present. I request copies of any best management practices that approve composting animal waste in the pens and corrals where dairy cows live. Best management practices are defined in WAC 173-201A-020 as "physical, structural, and/or managerial practices approved by the department that, when used singularly or in combination, prevent or reduce pollutant discharges."

Status : No Records Exist

Mrs. Jean Mendoza

Dear Mrs. Jean Mendoza,

The Washington State Department of Agriculture received a public records request from you on November 06, 2021. Your request mentioned:

> **"Dear Public Records Officer:**
> **Pursuant to the WA State Public Records Act RCW §§ 42.56.001 to 42.56.904, I write to request access to, and copies of all best management practices for dairies that have been officially approved by the WA State Dept. of Ecology and the WA State Dept. of Agriculture, from Jan. 1, 1990, to the present. I request copies of any best management practices that approve composting animal waste in the pens and corrals where dairy cows live. Best management practices are defined in WAC 173-201A-020 as "physical, structural, and/or managerial practices approved by the department that, when used singularly or in combination, prevent or reduce pollutant discharges."**
> **If your agency does not maintain these public records, please let me know who does and include the proper custodian's name and address. If WSDA contends that any responsive material is exempt from disclosure, please provide a redaction log containing a description of each redaction or document withheld, the statutory basis for each redaction or withholding, and an explanation sufficient for us to ascertain the applicability of each claimed exemption (e.g. a summary of the document's contents, the date of its creation, the parties who participated in drafting it, the parties to whom it was disseminated, etc.). RCW § 42.56.210(3); WAC 44-14-04004(4)(b)(ii); PAWS v. Univ. of Wash., 125 Wn.2d 243, 270-71 (1994).**
> **If the cost would be greater than $50.00, please notify me. Please provide a receipt indicating the charges for each document.**
> **As provided by the open records law, I will expect your response within five (5) business days of the date of this request. RCW § 42.56.520.**
> **Thank you for your assistance."**

We have searched the department's records and found no records which respond to your request.

This completes my response. I have closed this request.

If you have any questions, please feel free to contact me at 360-902-1935.

Sincerely,

Pamela Potwin
Public Records Officer
360-902-1935

WA Ecology Public Records Request January 2022

P008198-110621

Dear Public Records Officer: Pursuant to the WA State Public Records Act RCW §§ 42.56.001 to 42.56.904, I write to request access to, and copies of all best management practices for dairies that have been officially approved by the WA State Dept. of Ecology and the WA State Dept. of Agriculture, from Jan. 1, 1990, to the present. I request copies of any best management practices that approve composting animal waste in the pens and corrals where dairy cows live. Best management practices are defined in WAC 173-201A-020 as "physical, structural, and/or managerial practices approved by the department that, when used

singularly or in combination, prevent or reduce pollutant discharges." If your agency does not maintain these public records, please let me know who does and include the proper custodian's name and address. If Ecology contends that any responsive material is exempt from disclosure, please provide a redaction log containing a description of each redaction or document withheld, the statutory basis for each redaction or withholding, and an explanation sufficient for us to ascertain the applicability of each claimed exemption (e.g. a summary of the document's contents, the date of its creation, the parties who participated in drafting it, the parties to whom it was disseminated, etc.). RCW § 42.56.210(3); WAC 44-14-04004(4)(b)(ii); PAWS v. Univ. of Wash., 125 Wn.2d 243, 270-71 (1994). If the cost would be greater than $50.00, please notify me. Please provide a receipt indicating the charges for each document. As provided by the open records law, I will expect your response within five (5) business days of the date of this request. RCW § 42.56.520. Thank you for your assistance.

Status : No Responsive Records