



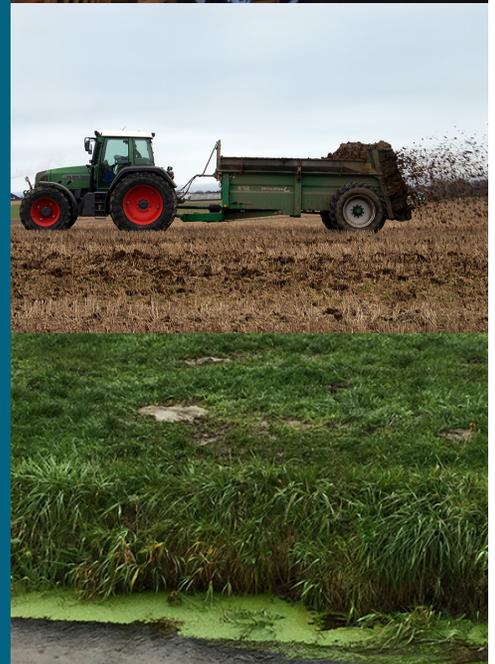
Washington  
State Department of  
Agriculture

# Implementation of nutrient management training program for farmers

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Report to the Legislature and  
other Stakeholders - June 2016

ESSB 6052 Senate Bill  
Section 309(3) (page 120-1)



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Washington  
State Department of  
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## INTRODUCTION

During the 2015 legislative session, a state appropriation of \$575,000 was included in the FY2015-17 budget to fund additional work to implement a nutrient management training program for farmers that would provide training in agronomic application of dairy nutrients (manure). This work was assigned to the Washington State Department of Agriculture (WSDA). *See Entire text of proviso language*

WSDA assigned responsibility for this project to the agency's Dairy Nutrient Management Program (DNMP). An analysis of the language finds the following requirements to be met:

1. Develop an accreditation process to track completion of training by individuals who apply manure. *See "Training and Accreditation" Page 4*
2. Upon request from farmers, review land application records (including when, where, and how much manure to apply) to ensure that applications will meet crop nutrient requirements and to protect waters of the state. *See "New Inspectors Add Capacity" Page 7*
3. The funds may also be used to increase inspection activities in watersheds, including those areas with impaired surface or ground water. *See "New Inspectors Add Capacity" Page 7*
4. Report to the governor and legislature the level of participation and results of the training program. Also, identify gaps in the manure management program, including existing rules and statutory language, and report on a strategy to address those gaps. The final report is due June 30, 2017 and will include a full review of those aspects. The first report was submitted to the legislature on December 31, 2015 and is available on our website. *See "Identify Gaps" Page 8*  
*See "Reporting" Page 9*

**If you need additional information or have questions, please contact:**

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# TRAINING AND ACCREDITATION - Agronomic application training

From proviso language:

*.. The department shall develop an accreditation process to track completion of training by individuals who apply manure. The department shall also offer to willing farms to review agronomic application of dairy nutrients, as defined in RCW 90.64.010, used in crop production, including when, where, and how much manure to apply to meet crop nutrient requirements and to protect waters of the state.*

*.. In developing the curriculum for agronomic education and certification programs, the department will provide opportunity for input from interested parties including: Washington State University, state conservation commission, department of ecology, conservation district staff, and representatives from agricultural, livestock, and crop organizations, environmental organizations, tribal government representatives, and certified crop advisers. There is \$75K minimum per fiscal year.*

## TRAINING PROGRAMS

Initially training programs were developed and conducted by the Whatcom and South Yakima Conservation Districts in January 2015 with funding support from penalty accounts established in the Dairy Nutrient Management Act, [RCW 90.64.150](#). The pilot education events, one held in Lynden and one in Sunnyside, were attended by approximately 100 dairy producers and custom applicators.

In July 2015, ESSB 6052 Senate Bill Section 309(3) (page 120-1) provided funding for additional training programs for farmers who apply manure across Washington State. WSDA issued the first request for proposals on September 15, 2015 for agronomic education and outreach. In addition, the agency issued a news release announcing the request for proposals.



*Whatcom County: Dairy operators in four-hour manure-nutrient management session hear experts describe best management practices, rules and regulatory updates and required recordkeeping for water quality protection.*

Seven proposals were received from conservation districts, Washington State University, and one private organization. Although all of the training events have not been completed at the time this report was compiled, 296 agricultural producers have attended one of the 10 training events completed by local conservation districts; two additional events are planned for late June 2016. Washington State University is planning six additional events by June 2017. A total of \$92,195 is budgeted for these training events. (Table 1.)

In March 2016, a second call for proposals was issued for additional educational workshops and tools that will help farmers to apply manure and protect both surface and ground waters. WSDA has received three proposals from Washington State University and two proposals from local conservation districts to provide 10 additional training events across Washington State.

The training will be offered to agricultural producers who use manure and other sources to provide nutrients in their cropping systems, as well as custom applicators and crop consultants. In addition, WSU will develop a web-based tool to help farmers develop nutrient budgets to meet crop needs while protecting groundwater, and an education program that will inform livestock producers about how feed management can be adjusted to reduce the amount of nutrients in the manure. The total anticipated cost of the second round of proposals is \$104,671.

**TABLE 1 - 2016 Training Events Funded to Date**

Contract ID	Session Name	Session Sponsor	Session Date	No. of Attendees
K1838	Implementation of a Nutrient Management Training Curriculum for Manure Users	Whatom CD	Jan 27, 2016	81
K1839	Manure Application Training Series - Changing Rein Farm Tour	Pierce CD	Feb 6, 2016	13
K1838	Implementation of a Nutrient Management Training Curriculum for Manure Users	King CD	Feb 10, 2016	51
K1838	Implementation of a Nutrient Management Training Curriculum for Manure Users	Snohomish CD	Feb 11, 2016	47
K1839	Manure Application Training Series - Applicator Training	Pierce CD	Feb 23, 2016	11
K1840	Manure Exchange Education Program - Blueberry Workshop	Mason CD	Feb 27, 2016	32
K1840	Manure Exchange Education Program - Mud & Manure Workshop	Mason CD	Mar 13, 2016	17
K1890	Manure Nutrient Application Workshop for Agricultural Producers	South Yakima CD	Mar 16, 2016	23
K1839	Manure Application Training Series - Pasture Workshop, Ruff Farm	Pierce CD	Apr 20, 2016	12
K1839	Manure Application Training Series - Manure Spreader Demonstration	Pierce CD	May 15, 2016	9
K1896	Managing Manure and Water Quality Concerns on Farms in Southwest	Thurston CD	Jun 24, 2016	
K1896	Managing Manure and Water Quality Concerns on Farms in Southwest	Grays Harbor CD	Jun 28, 2016	
K1937	Developing a Computer Tool and a Field Demonstration for Agronomic and Environmental Friendly Land Application of Manure	WSU-Pullman	By June 2017	
K1892	Tools for Actively Adopting Your Nutrient Management Plan	WSU-Pullman	By June 2017	
<b>TOTAL ATTENDANCE TO DATE:</b>				<b>296</b>

Participants in all the training events included dairy operators, non-dairy livestock producers, crop consultants, custom applicators, berry and other crop producers. Participation by berry growers increased from two participants in 2015 to 48 participants in 2016.

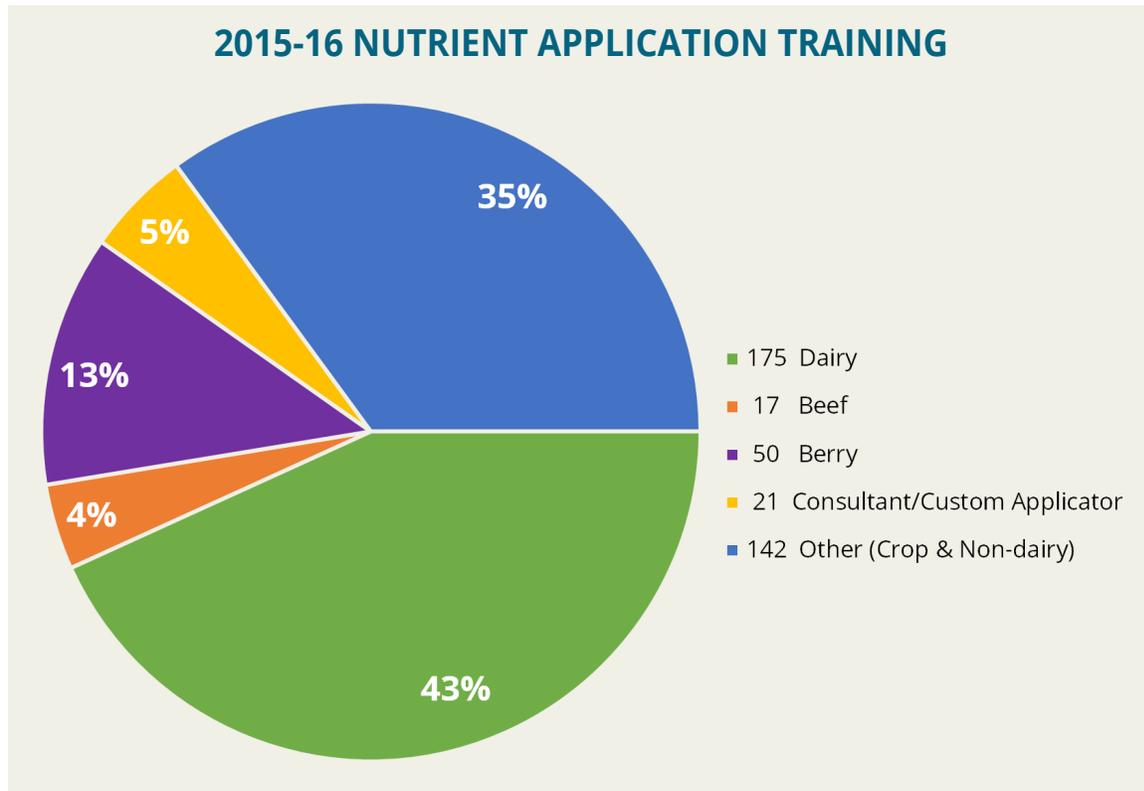


Figure 1 - Participants in Nutrient Management Training by Industry Type

Additional project proposals regarding land application recordkeeping systems, irrigation management, and alternative practices to develop exportable, high-quality nutrient products are expected.

## ACCREDITATION (AND TRACKING)

Participants who complete training received a Certificate of Training from the training entity. As a part of each individual grant, the training entity must provide a list of participants to WSDA. WSDA is working with a database contractor to create a module to track participation by individuals and anticipates completion of the database before the final report is due in June 2017. This information will include the participant lists from the initial training sessions in January 2015.

***Agronomic Application*** – the application of nutrients, regardless of source, to maximize plant growth and protect water quality. Applying at the right rate, at the right time, and in the right place are components of agronomic application of nutrients.

# NEW INSPECTORS ADD CAPACITY

From proviso language:

*.. These funds may also be used to increase inspection activities in watersheds, including those areas with impaired surface or ground water impairment.*

DNMP hired two additional inspectors in September 2015 to add capacity to meet the additional work. One inspector was added to the Northwest Region office and one to Eastern Region office. These new inspectors have completed the basic training and are conducting routine and follow up inspections, responding to complaints, and conducting investigations. The new staff are working with dairy producers primarily, but have also worked with other users of manure such as berry producers in Whatcom County and hop producers in Yakima County.

All DNMP staff have participated in local training events to provide information and are committed to doing so at future events.

In addition, the two new inspectors have allowed the DNMP to respond to additional requests from agricultural producers, including:

- Requests for GIS mapping to track and visually display lagoon inspections, land application of manure tracking and water quality sampling activities.
- Requests from producers and stakeholders to share results from water quality sampling as close to real-time as possible. The on-line maps have been available since January 2016 and provide the water quality results within a few days of sampling. The information allows producers to evaluate how the practices they are implementing could be affecting water quality. See on-line map.
- Requests for field walks so producers can talk with our inspectors about preferential pathways existing in individual fields and management practices that could be used by the land applicators of manure to protect surface water quality.



Figure 2- Training new inspectors about water quality sampling.

## QUARTERLY REPORTS TO OFM ON COMPLIANCE RATES

WSDA reports quarterly to the Office of Financial Management on the “percent of dairy farms and permitted Concentrated Animal Feeding Operations (CAFOs) in compliance with their Nutrient Management Plan,” as shown in Table 2. Compliance percentage is a rolling average that is calculated using the number of routine inspections (RT) conducted in the previous two-year cycle as compared to enforcement actions for actual discharges to surface water and potential to pollute.

WSDA enforcement actions include:

- Notice of Correction (carries no fine)
- Civil penalty (includes a fine)
- Order (No fine. Orders specific action to stop, clean or prevent a discharge)

**TABLE 2 - Quarterly reporting to Office of Financial Management**

Quarter	OFM reporting includes 24 months of routine inspections and enforcement actions		
Reporting Date	Routine Inspections	Enforcement Actions	% of dairies and CAFOs in compliance with their nutrient management plan
03/31/16	443	4 Penalties, 31 Notice of Corrections	92%
<b>12/31/15</b>	<b>422</b>	<b>1 Order, 9 Penalties, 33 Notice of Corrections</b>	<b>90%</b>
09/30/15	382	1 Order, 9 Penalties, 32 Notice of Corrections	89%
06/30/15	394	1 Order, 7 Penalties, 29 Notice of Corrections	94%
03/31/15	461	1 Order, 9 Penalties, 43 Notice of Corrections	89%
<b>12/31/14</b>	<b>409</b>	<b>1 Order, 11 Penalties, 44 Notice of Corrections</b>	<b>86%</b>
09/30/14	447	1 Order, 11 Penalties, 48 Notice of Corrections	87%
06/30/14	436	1 Order, 10 Penalties, 47 Notice of Corrections	87%

From the data in Table 2, those cases where the enforcement action involved actual discharges to surface water are highlighted and shown in Table 3. This is information that is not reported to OFM. The table includes the percent of licensed dairy farms in compliance with the state’s Dairy Nutrient Management Act by not having a discharge to waters of the state. The target is a 95% compliance rate, calculated by taking the number of dairies without a documented discharge and dividing by the number of licensed dairies.

For historical perspective, the last four years of enforcement actions includes 44 documented discharges to surface water. Table 4 shows surface water discharges categorized into broad categories of causes. Land applications during unfavorable field conditions leads the group and could include applications on saturated soils, inadequate setbacks from preferential pathways (swales, tile drains, etc.), or the weather.

The other concern from land applications of manure is the potential to apply nitrogen at rates above crop needs and the potential for nitrates to leach to ground water. Inspections between April 1, 2013 and March 31, 2016 include a review of soil tests for land application fields to measure application rates of nitrogen, as well as other nutrients. Results of soil tests reviews are listed in Table 5.

**TABLE 3 - Enforcement actions for discharges to surface water**

Reporting date	Enforcement actions for discharges to waters of the state	Compliance rate
03/31/16	23	95%
<b>12/31/15</b>	<b>20</b>	<b>95%</b>
09/30/15	15	96%
06/30/15	20	95%
03/31/15	22	95%
<b>12/31/14</b>	<b>26</b>	<b>94%</b>
09/30/14	26	94%
06/30/14	24	94%

**TABLE 4 - Discharges to Surface Water (from enforcement data)**

Compliance Category	# of discharges to surface water
Land Application: Field Conditions	22
Equipment Malfunction	6
Collection/Conveyance & Storage	14
Animal Access	2

**TABLE 5 - Soil test levels (from inspection data)**

	# Dairies	# Acres	Soil N Acres Acceptable	Soil N Acres Need Attention
STATEWIDE				
2014	416	168,073	96.8%	3.2%
2016	396	176,610	96.9%	3.1%
YAKIMA COUNTY				
2014	69	28,743	88.1%	11.9%
2016	62	28,878	93.4%	6.6%
WHATCOM COUNTY				
2014	107	32,807	95.3%	4.7%
2016	98	29,007	97.1%	2.9%

## IDENTIFYING GAPS

From proviso language:

*.. The department in consultation with interested stakeholders shall identify gaps in the manure management program, including existing rules and statutory language, and report on a strategy to address those gaps.*

WSDA has begun a process to discuss gaps and strategies to address any identified gaps. Two developments are driving this strategy that the agency will explore over the next six months:

- 1. Adjustments to rules and policies** – The Washington Department of Ecology currently drafting a Concentrated Animal Feeding Operation (CAFO) permit that will provide a starting point for this important work. In addition, WSDA and Ecology have recently updated the Shellfish Closure Response Memorandum of Understanding. WSDA has also enhanced its coordination with partner agencies to ensure consistent communication and coordination around DNMP activities.
- 2. A new advisory committee** - Director Sandison has established a Dairy Nutrient Advisory Committee that will include members representing a diversity of ideas from a broad cross-section of stakeholder groups, including environmental interests, tribal interests, regulatory and non-regulatory agencies, dairy operators and the shellfish industry. The committee’s primary purpose will be to help WSDA identify potential operational improvements to the DNMP and provide recommendations to ensure the program is operating at peak efficiency. This committee is similar to the former Livestock Nutrient Management Program Oversight Committee that completed work in 2006.

# REPORTING

From proviso language:

*.. This program shall be a two-year pilot and the department shall report to the governor and the legislature by December 31, 2015, June 30, 2016, and on June 30, 2017, on the level of participation and results of the program.*

Reporting to:

- Governor
- Legislature
- House Agriculture and Natural Resources Committee
- Senate Agriculture, Water and Rural Economic Development Committee
- Office of Financial Management

With copies to:

- Agriculture
- Ecology
- Washington State Conservation Commission
- Washington Dairy Federation
- Washington Farm Bureau
- Washington Association of Conservation Districts

# PROVISO LANGUAGE

\$575,000 of the state toxics control account—state appropriation is provided solely to implement a nutrient management training program for farmers that provides training in agronomic application of dairy nutrients, as defined in RCW 90.64.010. **The department shall develop an accreditation process to track completion of training by individuals who apply manure. The department shall also offer to willing farms to review agronomic application of dairy nutrients**, as defined in RCW 90.64.010, used in crop production, including when, where, and how much manure to apply to meet crop nutrient requirements and to protect waters of the state. These funds may also be used to **increase inspection activities in watersheds, including those areas with impaired surface or ground water impairment**. The department in consultation with interested stakeholders shall **identify gaps in the manure management program**, including existing rules and statutory language, and report on a strategy to address those gaps. This program shall be a two-year pilot and the department shall **report to the governor and the legislature** by December 31, 2015, June 30, 2016, and on June 30, 2017, on the level of participation and results of the program. In developing the curriculum for agronomic education and certification programs, the department will provide opportunity for input from interested parties including: Washington State University, state conservation commission, department of ecology, conservation district staff, and representatives from agricultural, livestock, and crop organizations, environmental organizations, tribal government representatives, and certified crop advisers.



The Dairy Nutrient Management Program (DNMP) was appropriated funding by the legislature in the FY15-17 budget ***“to implement a nutrient application training program for farmers that provides training in agronomic application of dairy nutrients.”*** In developing the curriculum for agronomic education and certification programs, the department (WSDA) will provide opportunity for input from interested parties. The budget will be utilized for agronomic education curriculum grants and tools to help agricultural producers and land applicators of manure make good decisions about when, where and how much to apply.

**Application Window:** The application period for this program will **open March 1, 2016, and close on June 1, 2016.**

**Call for Proposals:** The proposed educational opportunity **will provide land applicators of manure with tools and information to make good decisions that include the right amount of nutrients applied in the right place and at the right time.** Educational opportunities could consist of classroom training, field days, or development of tools as a decision aid or a combination to be completed between January 1, 2016, and June 1, 2017. The following subjects related to land application of manure were emphasized during FY15-16 grant cycle:

**Agronomic Nutrient Applications – Right Amount, Right Time, and Right Place**

- How to calculate? Crop Need? Accounting for all sources
- Soil Testing and Manure Testing Protocols
- Application Risk Management – Weather Forecasting, Setbacks, V-Ditch management and Maintenance Practices
- Application Equipment Calibrations
- Nutrient Application Recordkeeping

**Irrigation Water Management**

- Soil Water Measurements
- Irrigation Scheduling
- Efficiency/Uniformity
- Irrigation Equipment Calibrations/Maintenance
- Irrigation Application Records

**Match Requirement:** No match required, but encouraged

**Cooperative Projects:** Not required, but **strongly** encouraged

**Application Criteria:** A successful grant application will clearly identify how the proposal helps the agricultural producer and land applicator of manure apply nutrients at the right amount, at the right

place and at right time to achieve compliance with state and federal water quality laws. The proposal should:

- ✓ Describe whether this project is part of a larger or long term project, and if so, how this project fits into the larger project;
- ✓ Describe whether this is a local project or has statewide applicability;
- ✓ Detail any partners that are involved in the project and what their participation is;
- ✓ Clearly define the targeted audience and learning objective;
- ✓ Describe the product; such as educational materials and tools, and how the materials/tools will be delivered.

**Application Evaluation:** Applications will be evaluated by considering:

- ✓ Quality and clarity of the proposal
- ✓ Education will help the agricultural producer and land applicators of manure achieve compliance with state and federal water quality laws
- ✓ Education will help land applicators of manure protect drinking water sources
- ✓ Education will help land applicators of manure protect shellfish beds

**Grant Reimbursement rates:** For the purposes of this grant application an agricultural producer means any livestock operator, manager or employee, any crop producer who uses manure in their cropping system, and any custom applicator of livestock manure.

**Eligibility:** Conservation districts, Land Grant University, or other organizations that can show expertise in agronomic application of manure or irrigation water management.

**Application Review:** Applications received, will be reviewed and ranked by Dairy Nutrient Management Program staff. Recommendations will be forwarded to the Assistant Director for the Pesticide Management Division who will make the final selection

**Restrictions:** Grant funds cannot be used to purchase equipment.

**Overhead:** Not to exceed Federal Overhead 17.7%

**Statewide Vendor Registration:** The Washington State Office of Financial Management (OFM) maintains a central contractor registration file for Washington State agencies to use for processing contractor payments. This allows many contractors to receive payments by direct deposit. Contractors are required to be registered in the Statewide Vendor Payment system, <http://www.ofm.wa.gov/accounting/vendors.asp>, prior to submitting a request for payment under this Contract. No payment shall be made until the registration is completed.

Applications must **be received in the DNMP office by June 1, 2016**. If you have any questions, you may call Ginny Prest, 360 902-2894 or by email [vprest@agr.wa.gov](mailto:vprest@agr.wa.gov). Applications will be reviewed and selected proposals will be offered grant contract(s) no later than August 1, 2016.

