Date

Equipment Company
Address
Address

Dear Equipment Company,

Dairy Farmers of Canada (DFC) is pleased to announce enhancements and revisions to the Canadian Quality Milk (CQM) program:

- A revised version of the CQM program's **Workbook and Reference Manual** was released October 1, 2015, which replaces the June 2010 version.
- The CQM program is transitioning to the Food Safety component of proAction®, DFC's quality assurance program, so the new book is titled "Food Safety."
- DFC has also published a **Notice of Change**, which summarizes the changes and outlines the new requirement, revisions to existing requirements and additional clarifications and information.

Please visit DFC's proAction website at www.dairyfarmers.org/proaction to download a copy of the Workbook and Reference Manual. The Notice of Change is attached to this letter.

The clarifications and changes of note that may affect equipment services are:

- **Annual wash system evaluation (Record 14b):** Farmers need to have an annual wash system analysis (Record 14b) conducted on each washing system. Some farms have more than one washing system (e.g. each CIP system, each Automatic Milking System (AMS) unit or two AMS units if they are washed by a single wash sink). The wash system analysis is designed to ensure that the wash system is working effectively. The check is only effective for the system that is being evaluated. As a result, each wash system must be analyzed.
- **Revised Record 14 and Record 14b:** These record templates have been revised to be more generic and applicable to different types of washing protocols. Please see the revised versions attached to this letter. Both of these records are samples, as the CQM program recognizes that equipment dealers often have their own forms. However, please make sure that your forms include the items listed in these two records, as CQM validators will be looking for them.

Other changes related to equipment that farmers will have to do are:

- **Water temperature:** The requirement was changed from the option of checking the temperature of the pre-rinse water to the hot water from the tap. The best practice is to check

the temperature of the wash water at the end of the cycle to ensure that adequate temperature is maintained throughout the wash. However, farmers can choose to check the temperature of the hot water directly from the tap, for convenience. The option was changed to the hot water from the tap because it should be easier for farmers to achieve and should provide enhanced value to checking the pre-rinse water temperature.

- **Milk temperature:** Farmers need to monitor and record the temperature of the milk in each bulk tank. For example, if a farm has more than one bulk tank, the farmer must monitor the temperature of the milk in each tank.
- **Milking equipment cleanliness:** Farmers need to conduct a milking equipment cleanliness check (Record 13) on each washing system. Some farms have more than one washing system, so the requirement has been expanded to include a milking equipment sanitation record for each system. The milking equipment sanitation check is designed to help farmers identify cleaning issues early and prevent problems from occurring. The check is only effective for the system that is being evaluated. As a result, each washing system must be evaluated on a regular basis.

Farmers have a six-month transition period to learn about the requirements and implement them on farm. From **April 1, 2016** and on, all validations and self-declarations will contain the new requirements.

DFC has also up-dated the "Fact Sheet: Annual Wash System Evaluation," which is included in this package. The fact sheet is designed to provide more guidance on the recommended parameters for the wash system evaluation.

I hope you find this information helpful. Again, please visit the proAction website for more information.

Best regards,

Name and title

Attached: Notice of Change
Record 14: Cleaning and Sanitizing Chart
Record 14b: Sample Annual Wash System Evaluation
Fact Sheet: Annual Wash System Evaluation

RECORD 14: CLEANING AND SANITIZING CHART (FS29)

Farm Name: _____ **Date:** _____

Water Analysis: hardness_____ grains pH_____ iron_____ ppm (mg/l)

PIPELINE / AMS: # / Name: _____	BULK TANK
Cycle #1: _____	**Purpose:** _____
Product Name: _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__	**Product Name:** _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__
Cycle #2: _____	**Purpose:** _____
Product Name: _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__	**Product Name:** _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__
Cycle #3: _____	**Purpose:** _____
Product Name: _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__	**Product Name:** _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__
Cycle #4: _____	**Purpose:** _____
Product Name: _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__	**Product Name:** _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__
Cycle #5: _____	**Purpose:** _____
Product Name: _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__	**Product Name:** _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__
Cycle #6: _____	**Purpose:** _____
Product Name: _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__	**Product Name:** _____ Volume: _____ ml oz Temperature: (Cold Warm Hot) Water volume: _____ litres gallons Minimum start temperature: _____ °__ Minimum end temperature: _____ °__

Signed by: _____ **Company:** _____

(Equipment dealer / Industry professional)

RECORD 14B: SAMPLE ANNUAL WASH SYSTEM EVALUATION (FS32)

Note: Equipment dealers or industry professionals may use this form or their own wash system evaluation form. If they use their own form, they should include the items in this sample form. The Table in Section 8.1.1 of the Reference Manual provides guidance on acceptable parameters.

Purpose: the annual wash system evaluation is one step in a series of best management practices designed to help you minimize milk safety issues. The wash system evaluation is designed to help you identify problem areas so that you can prevent problems from occurring. The sample record is a guideline. Your industry professional may customize your wash system evaluation to best suit your equipment's needs. This record should be completed for **each** AMS or wash system (e.g. two robots washed by one wash sink).

Farm Name: _____ AMS # or Name: _____ Date: _____

EVALUATION PARAMETERS	PIPELINE / AMS	BULK TANK
1. Time: circulation / cycle time for: **a.** Cycle #1: _____ **b.** Cycle #2: _____ **c.** Cycle #3: _____ **d.** Cycle #4: _____ **e.** Cycle #5: _____ **f.** Cycle #6: _____ Comments / corrections:	_____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No	_____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No _____mins Adequate? ☐Yes ☐No
2. Temperature: Water temperature compares with the product manufacturer requirements or the Cleaning and Sanitizing Chart for: **a.** Cycle #1: _____ **b.** Cycle #2: _____ **c.** Cycle #3: _____ **d.** Cycle #4: _____ **e.** Cycle #5: _____ **f.** Cycle #6: _____ Comments / corrections:	Temperatures are in: ☐C or ☐F ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No	Temperatures are in: ☐C or ☐F ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No ____° Adequate? ☐Yes ☐No
3. Slugging Action: Comments / corrections:	Adequate slugging action for water flow (e.g. air injector or air compressor function)? ☐Yes ☐No	Adequate water spray? ☐Yes ☐No ☐Manual Wash
4. Chemical Concentrations:		
a. Water Analysis: hardness_____grains pH_____ iron_____ ppm (mg/l)		
b. Chemical concentrations: correct amount and dispersal (i.e. are automatic dispensers working)? Comments / corrections:	Wash: ☐Yes ☐No Acid: ☐Yes ☐No Sanitize: ☐Yes ☐No ☐Manual Wash - Buckets	Wash: ☐Yes ☐No Acid: ☐Yes ☐No Sanitize: ☐Yes ☐No ☐Manual Wash

Signed by: _____ **Company:** _____
(Equipment dealer / Industry professional)

Food Safety

Fact Sheet: Annual Wash System Evaluation

The Food Safety program requires farmers to have their wash systems evaluated annually by an industry professional. Milking systems are washed automatically in many installations, but problems can occur and result in high bacteria counts.

The National Mastitis Council provides excellent recommendations for wash system evaluations in two documents: “Procedures for Evaluating Vacuum Levels and Airflow in Milking Systems (revised edition, 2012)” and “Troubleshooting Cleaning Problems in Milking Systems (2004)”.

Requirement: farmers must have each wash system evaluated annually by an industry professional to prevent problems from occurring. The basis of the check is a clean-in-place (CIP) analysis (e.g. time, temperature, slugging action and chemical concentrations). The wash system evaluations should include all milk contact surfaces (e.g. milking equipment and bulk tank) and each washing system (e.g. each CIP system, each bulk tank, and each automatic milking system (AMS) unit or set of AMS units washed by a single wash sink).

What is the purpose of annual wash system evaluation?

The annual wash system evaluation is one step in a series of best management practices designed to help you minimize milk safety issues. The wash system evaluation is designed to help you identify problem areas so that you can prevent problems from occurring.

Do I need a record?

Yes, you should give your equipment dealer or industry professional the Record 14b: Sample Annual Wash System Evaluation form (provided to you by your Provincial Coordinator or the proAction website), and they should conduct the analysis, and fill in and sign the form. They may have a company-specific form, but you should ensure that it includes the same parameters as Record 14b.

How is Record 14b different from Record 14?

Record 14 is a Cleaning and Sanitizing Chart. Your equipment dealer fills it in for you to indicate the water temperatures, volumes of water and volumes of chemicals your system needs to clean properly: both in the pipeline and the bulk tank. Record 14 only needs to change when you change chemicals. Record 14b, the annual wash system evaluation, must be done annually and it includes testing to make sure that your system is functioning properly. The two records, while closely related, have different functions and different frequency requirements.

What should my equipment dealer or industry professional do?

Your equipment dealer should check the following parameters for all milk contact surfaces:

- ✓ **Test water characteristics.** The amount of detergent used depends on water characteristics. These characteristics such as hardness and iron content can vary and should be tested regularly.
- ✓ **Ensure appropriate circulation time.** Cleaning time is critical for the detergents to complete the cleaning functions. Too little circulation may cause milk contact surfaces to be poorly cleaned and too long a circulation time could result in inadequate end wash water temperature.
- ✓ **Test water temperature** and compare with the detergent manufacturer requirements and/or the farm's Cleaning and Sanitizing Chart (Record 14). Adequate water temperature is essential for an effective wash cycle.
- ✓ **Regularly check slugging action**. Water slugs are necessary to ensure proper cleaning of the milkline. A testing protocol allows the milking machine technician to adjust the air injector to obtain proper water flow conditions.
- ✓ **Check automatic detergent dispenser for the correct amount and dispersal of chemicals regularly.** Systems can be plugged and fail to dispense; therefore, they should be tested to ensure proper chemical concentration in the wash system.
- ✓ **Verify surface spray coverage in the bulk tank(s).** Adequate spray action and coverage can be negatively affected if the spray balls get clogged with debris.

Table 5 on page 8-3 in the Reference Manual outlines the recommended milking equipment sanitation procedures. You can find recommendations on circulation time, water temperatures, number of slugs, and chemical concentrations for each cycle. The recommendations are only guidelines, but they are based on the National Mastitis Council guidelines.

What are adequate circulation times?

Pre-rinse cycles are usually very short and water should only circulate through the system once. Wash cycles typically last between 5 to 10 minutes, and acid rinse and sanitize cycles usually last between 3 to 4 minutes.

What are adequate water temperatures?

The water temperature for each cycle should correspond to the detergent manufacturer's requirements or the Cleaning and Sanitizing chart that your equipment dealer or industry specialist filled in for your system. Commonly recommended temperatures for each cycle are:

Cycle	Water Temperature
Pre-rinse	Start of cycle: 35°C to 60°C (95°F to 140°F) End of cycle: minimum of 35ºC (95°F)
Wash	Start of cycle: minimum of 71^{0}C (160^{0}F) End of cycle: minimum of 43°C (110^{0}F)
Acid rinse	Check manufacturer's recommendation
Sanitize	Check manufacturer's recommendation (generally 43°C (110°F))

What is adequate slugging action?

The Food Safety program recommends that the wash cycle in the milkline should achieve a minimum of 20 slugs/wash. Slugging action is very important because if the slug is inadequate, the hot, soapy water will not reach all parts of the system, and, therefore, those parts will not be cleaned. Properly functioning air injectors ensure adequate slugs in the pipeline.

Bulk tank wash: Your equipment dealer should check that the bulk tank's washing unit for adequate water spray. Effective wash water spray coverage can be reduced if the CIP spray delivery system is compromised by debris. Spray balls, for instance, should be checked on a regular basis.

Please refer to the National Mastitis Council's recommendations for more information (Troubleshooting Cleaning Problems in Milking Systems).

How is proper slugging action measured in the milk line?

The following recommendations do not apply to an air-bleed system. Your equipment dealer can perform a few simple tests to determine if your cleaning system is slugging properly:

- ✓ Ensure your air injector fires about one second for each 25' of pipeline you have.
- ✓ Ensure your air injector stops firing about one second before the slug hits the jar.
- ✓ Ensure the total size of the air holes in the air injector that lets air into your system is adequate for your system.
- ✓ Ensure that if your system has a shut-off valve just above the trap, it shuts the system off for only two seconds, and only does this every 45 seconds or more (except those systems with new PC cards).

Also, equipment dealers should be aware that:

- ✓ Air admission volume behind each slug (when firing) should be between 20 to 50 cfm.
- ✓ Slug speed should be around the 25'-35' per second range for each system.
- ✓ Each parlor or pipeline unit should have a minimum of 3 litres of water per minute through each milking unit, and a minimum of 4.5 litres of water through milk meters and wash jars.
- ✓ The vacuum should drop 6 to 10 inches Hg when a slug passes a test port in the system.

What are adequate chemical concentrations?

To properly evaluate chemical concentrations, your equipment dealer must take water samples during each cycle and conduct tests to ensure the correct chemical concentration is in the solution, and to verify if automatic dispensers are working correctly.

Table 5 in Chapter 8 of the Reference Manual includes the following recommendations for chemical concentrations for the different wash cycles:

Cycle	Chemical Concentration
Wash of the milkline with chlorinated alkaline detergent	pH: 11.0 to 12.0 Total Alkalinity: 400 to 800 ppm Active Alkalinity: 225 to 350 ppm Chlorine content: 80 to 120 ppm
Rinsing the milkline with acid rinse	pH: less than 3.5
Rinsing the milkline with a sanitizer	Chlorine content: 100 and 200 ppm

Please note that exceptions always occur. For example, very large systems or exceptional water conditions may require higher levels of total alkalinity or lower pH for the acid rinse.

What do I do if problems are found?

As part of the Food Safety program, if your equipment dealer identifies problems with your wash system related to the Food Safety requirements, you must correct them.

Who can I contact for more information?

1. Your provincial producer association
2. Visit: www.dairyfarmers.ca/proaction