

Texas Department of State Health Services

Milk Group

During this training, you will learn specific procedures necessary to properly handle milk from the dairy farm to the milk plant, receiving or transfer station.

Grade “A” Milk Sampler/Hauler

- Training/Certification
- Professionalism
- Definitions
- Equipment/Supplies
- The Tanker
- Milk Quality Checks
- Measuring Milk
- Agitation & Sampling
- Pump-out Procedures
- Security
- At the Plant
- Information

Training and Certification

- Must complete training provided by Texas DSHS Milk Group
- Must pass a qualifying exam with a score of 70 or above
- Will be issued a 30 day Temporary Permit after passing exam
- Will be evaluated at a farm after the Temporary Permit is issued

Training and Certification

- Hauler/Sampler card will be issued after successfully passing exam and farm evaluation
- Will be evaluated by Regulatory Agency at least once every 24 months thereafter
- Must keep Hauler/Sampler card in your possession at all times

Training and Certification

- Hauler/Sampler or Coop is responsible for requesting certification before card expires
- Hauler/Sampler card may be revoked for failing to follow procedures outlined in this training

Professionalism

Personal Appearance

- Practice good hygiene; wash hands often
- Maintain a neat & clean appearance
- Wear a cap or other head covering
- Wear clean clothing
- **Do Not** use tobacco in the milk house!!



Keep the tanker clean inside and out !!



Duties and Responsibilities

- Close covers and cap outlet valves on the tanker
- Determine if the tanker, pump and hoses have been washed and sanitized
- Check for a valid cleaning(wash) tag less than 96 hours old

Duties and Responsibilities

- Follow all procedures to prevent contamination of milk and milk contact surfaces
- Make sure all security seals are intact before beginning your route



OBSERVE

WARNING

SIGNS

STATE LAW

Drive safely... observe all traffic rules!

Watch for people, animals and property before backing the tanker at the dairy!!



Duties and Responsibilities

- Don't discuss one dairy producers sample results, or "business" with anyone, especially another dairy producer

Duties and Responsibilities

- Remember, you are a **FOOD HANDLER**, and must practice sanitary handling of milk products
- The job you do affects the dairy producer, the milk plant, and the consumer
- Consider this, no one but you will see the milk before it reaches the processor

Duties and Responsibilities

- You represent your employer, the COOP, and most importantly, yourself
- Your job is not just that of a truck driver, it is much more important than that

Definitions

- “Bulk milk hauler”- Any person who collects official samples or transports raw milk from a farm to a plant, receiving or transfer station
- “Contaminate”- To “make impure” any surface which has been cleaned and sanitized
- “Sanitize”- The application of any effective method or substance to a clean milk contact surface in order to destroy microorganisms

Equipment and Supplies

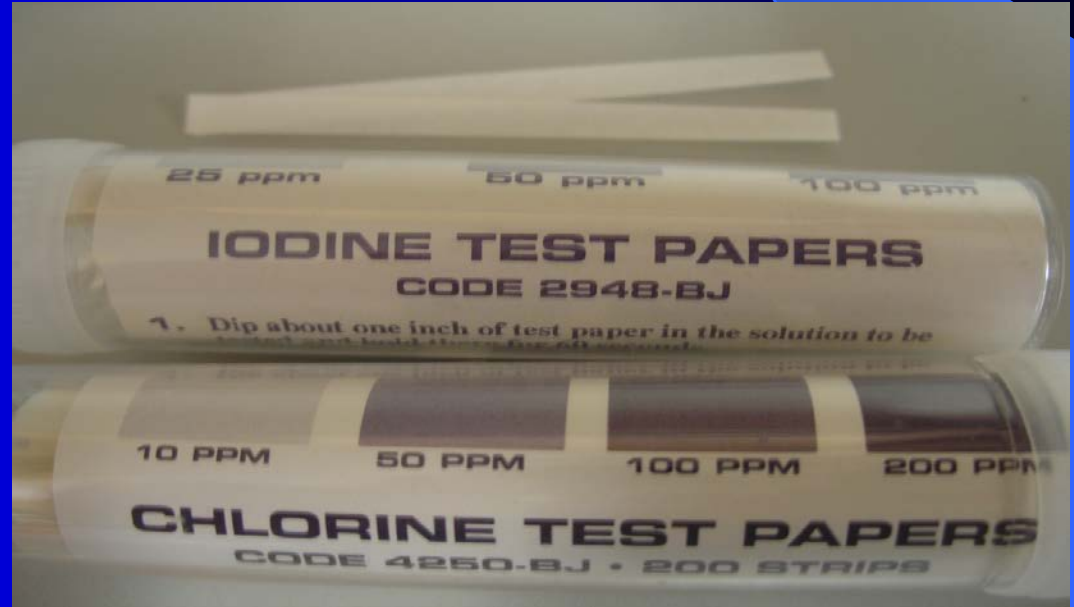
- Sufficient number of sample containers, properly stored and handled
- Sufficiently sized sample rack and cooler to hold all samples collected
- Ice or other refrigerant to maintain milk sample temperature between 32-40 degrees Fahrenheit.



Equipment and Supplies

- Approved sanitizing agent, such as chlorine or iodine
- Test kit for checking sanitizer strength

Iodine Strength=
25 ppm and
Chlorine
Strength= 200
ppm



Equipment and Supplies

Approved dipper with container.
Clean and in good repair. No pits or rust spots.



Equipment and Supplies

- Calibrated pocket thermometer, calibrated against standard thermometer one time every 6 months



Equipment and Supplies

- Accurate device for timing agitation
- Sanitary gaskets and wrenches
- Weight record book (manifest)
- Indelible marker or pen
- Paper towels
- Spray bottle or brush, for sanitizing valves and fittings

The Tanker

- Construction must comply with Pasteurized Milk Ordinance (PMO) Regulations
- Must be Permitted by an authorized Regulatory Agency
- Permit must be current!



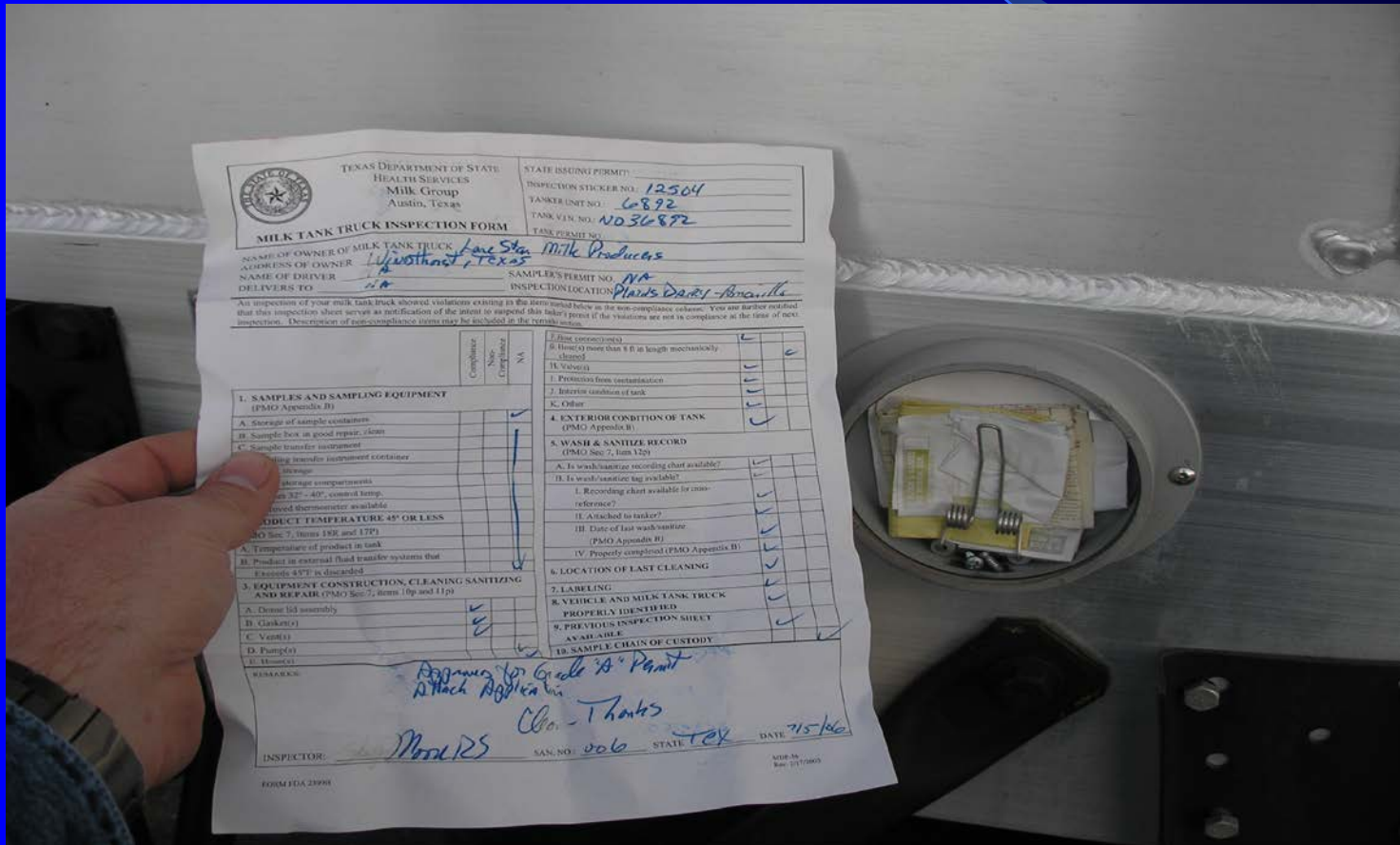
The Tanker

- Must be Inspected by a Regulatory Agency at least one time every 24 months
- Proof of inspection may consist of
 1. affixed decal identifying the Regulatory Agency and date of inspection



2. proof of inspection may consist of an Inspection Report carried in “the bubble” of the tanker

The Inspection must be current for hauling Grade “A” milk



The Tanker

- Must be properly identified, with a Regulatory Agency issued Permit number, as well as name and address of the milk transportation company displayed on both sides, in legible letters/numbers a minimum of 3 inches in height



The Tanker

- Cleaning and Sanitizing requirements...
- The tanker and all of its appurtenances must be cleaned in accordance with PMO requirements
- The tanker shall be cleaned and sanitized prior to its first use

The Tanker

- Cleaning and Sanitizing requirements
- The 96 Hour Rule... When the time elapsed after cleaning and sanitizing, and before its first use, exceeds 96 hours, the tanker must be re-sanitized
- The tanker must be cleaned after each days use

Wash and Sanitize Records

- The bulk milk sampler/hauler shall be responsible for assuring that the tanker has been properly cleaned and sanitized, by checking for a cleaning and sanitizing tag, more commonly referred to as a “wash tag”
- This wash tag must remain affixed to the outlet valve of the tanker until the next time it is washed and sanitized

Wash and Sanitize Records

The wash tag must include the following:

- tanker unit or ID number
- date and time of day the tanker was cleaned and sanitized
- location where the tanker was cleaned and sanitized
- initials or signature of the person who cleaned and sanitized the tanker

Wash and Sanitize Records

- Remember, it is the responsibility of the bulk milk hauler/sampler to verify a valid wash tag prior to loading milk on the tanker!!
- Example of wash tag:

LONE STAR MILK PRODUCERS
COMO SUPPLY PLANT
87 MUND LANE
COMO, TEXAS 75431
(903) 488-9097
PLANT NO. 48-3111

TANK # 1234
DATE 10-5-06 TIME 4:30 AM PM
WASHED BY CKG MANDATE
SANITIZED BY CKG OTHER

The Tanker

- Hoses, pumps, and fittings must be smooth, non-toxic, cleanable and in good repair
- Cabinets, if applicable, must prevent contamination of the equipment and be in good repair



Milk Quality Checks

- Before loading milk from a farm bulk tank or silo onto the tanker, you must first determine whether or not the milk is acceptable for pick-up by evaluating the odor, appearance and temperature of the milk



Milk Quality Checks

- While the milk is still, examine the milk by sight and smell for:
- Odors- no off odors, such as sour, malty or unclean
- Color- normal milk color may range from bluish white to golden yellow. Pink or red color may indicate the presence of blood

Milk Quality Checks

- While the milk is still, examine the milk by sight for
- Debris- such as insects, blood specks, straw, trash, oil, excessive butter, ice or other contaminants
- Milk temperature must not be greater than 45 degrees Fahrenheit

Sanitize the thermometer before checking milk temperature



Milk Quality Checks

- If you are picking up milk from a farm tank or silo that cannot have its manhole or door opened to check the milk quality, it will be necessary to collect a sample for this purpose.
- After agitation and sampling, the sample collected for the quality check should be warmed slightly so as to intensify any off-odors, making it easier to detect unacceptable milk.
- After checking this sample for milk quality, it should be discarded.

Milk Quality Checks

- If any unacceptable milk is found, reject the milk and contact your supervisor!

Measuring Milk

- If the agitator is running upon your arrival, the measurement can only be taken after the surface of the milk is perfectly still

Before beginning, wash hands thoroughly!



Measuring Milk

- There are normally two types of milk measuring systems.
- One is the internal rod, or “stick”
- The second is the external gauge tube

Measuring Milk

- Internal measuring rod, or “stick”



- External gauge tube



To use the internal measuring rod, first remove and wipe clean with a clean single service paper towel



Measuring Milk

- Next, carefully insert the rod into the tank, making sure it is fully seated in its base
- Remove the stick and read in a well-lighted area
- Repeat this procedure until two identical measurements are taken



49.5

Remember 49.5 on the stick reading? It converts to 5,045 pounds of milk on the conversion chart

3550	3670	3789	2
3562	3681	3801	3
3574	3693	3813	4
3586	3705	3825	5
3598	3717	3837	6
3610	3729	3849	7
3622	3741	3861	8
3634	3753	3873	9
47 cm	48 cm	49 cm	
4737	4860	4982	0
4749	4872	4995	1
4761	4884	5007	2
4774	4896	5019	3
4786	4909	5032	4
4798	4921	5045	5
4810	4933	5057	6
4823	4946	5070	7
4835	4958	5082	8
4847	4970	5095	9
57 cm	58 cm	59 cm	
5997	6127	6257	0
6010	6140	6270	1
6023	6153	6283	2
6036	6166	6296	3
6049	6179	6309	4
6062	6192	6322	5
6075	6205	6335	6
6088	6218	6348	7
6101	6231	6361	8
6114	6244	6374	9

1500 GALLONS
25895
-1

Measuring Milk

- Record the gauge reading immediately on the farm weight ticket
- Observe the conversion chart, and convert the rod reading to pounds of milk and record on the manifest and farm weight ticket
- Be careful not to contaminate the milk while measuring!

Measuring milk using the external gauge

1. Sanitize the outlet valve



2. Connect and sanitize tube end adaptor



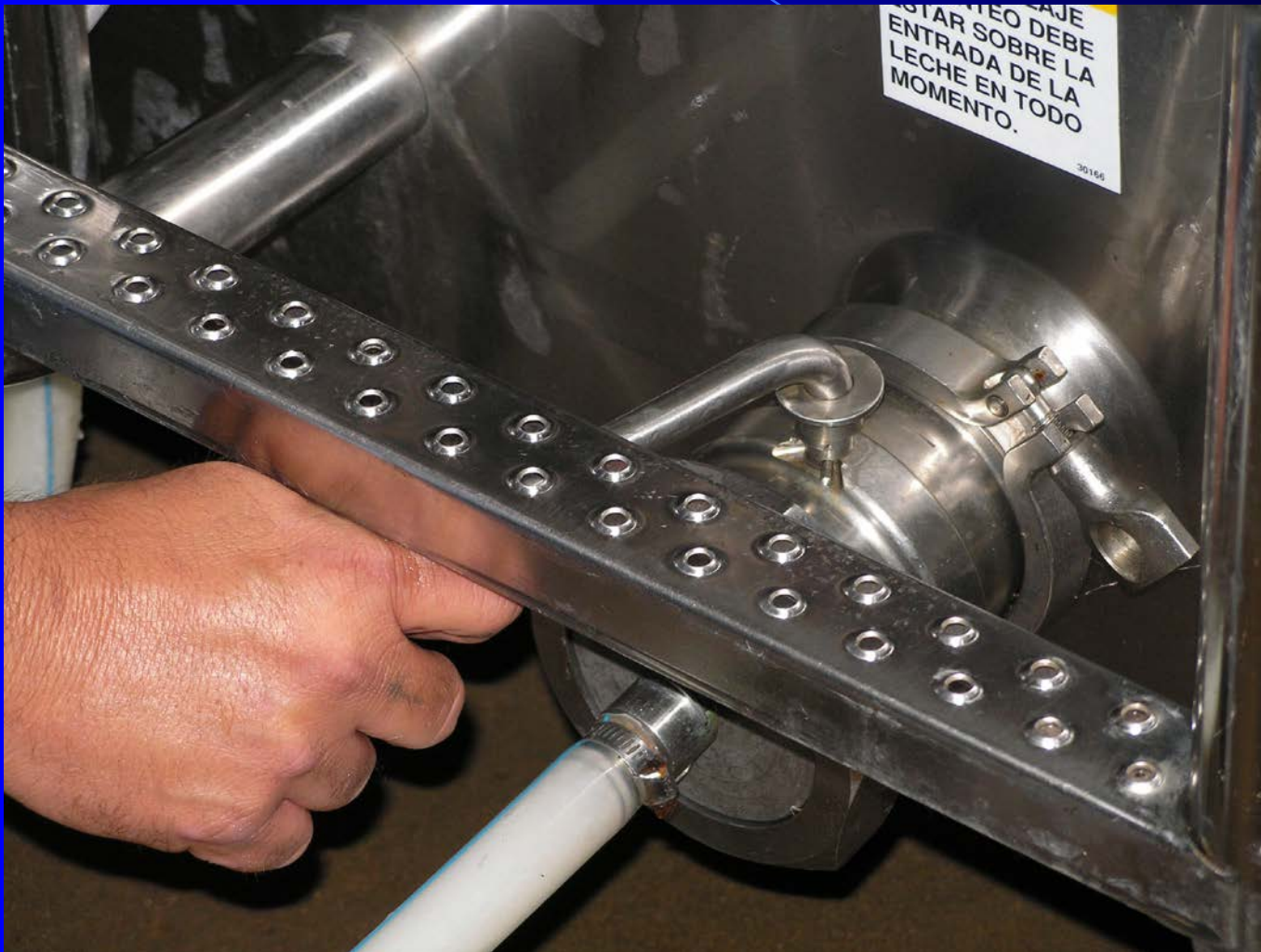
3. Sanitize tube end and drain



4. Connect tube and adaptor



5. Slowly and fully open outlet valve



Move the slide up the tube until it is level with the bottom of the meniscus of the milk in the tube



Measuring Milk

- Record the gauge reading immediately on the farm weight ticket
- Observe the conversion chart, and convert the tube reading to pounds of milk, and record on the manifest and farm weight ticket

Agitation and Sampling

- Improper agitation and sampling of milk can cause incorrect test results for Somatic Cell Count, Standard Plate Count, Butterfat, Protein, Inhibitors(drugs) and Aflatoxin.
- The pay the dairy farmer receives is based on results of these tests. Therefore, it is very important that agitation and sampling are taken seriously.

Agitation and Sampling

- Before sampling, milk must be agitated in order to obtain a representative sample
- Start the agitator and agitate the milk for at least 10 minutes (use an accurate timing device), or, follow the tank/silo manufacturer guidelines if more than 10 minutes are required

Remember to wash hands often!



Agitation and Sampling

- The 10 minute agitation period provides a great opportunity to bring your sampling equipment into the milkhouse
- The 10 minute agitation period also allows you time to properly label your sample vials

Agitation and Sampling

- At the first dairy on your route, or at any single producer load dairy, a temperature control sample must be collected. This sample must contain at least the following information:

TC

Producer name & number

Date & Time (include am/pm)

Milk Temperature and Route #

Hauler ID # (Drivers license)

Tank/Silo number(T1, T2, T3, etc)

Agitation and Sampling

- All other dairy tank or silo samples must contain at least the following information:

Producer name & number

Date, Time(include am/pm)

Milk Temperature & Route #

Tank/Silo number(T1,T2,T3 etc)

Agitation and Sampling

- After the 10 minute agitation period, and while the milk is still agitating, remove the dipper from the sanitizing solution and rinse at least 2 times in the milk to remove any trace of sanitizer solution

Collect the required number of samples from at least 8 inches below the surface of the milk



Agitation and Sampling

- Transfer the milk to the pre-identified sample containers
- Take care not to contaminate the containers when transferring the sample
- Fill the sample container to the fill line (no more than $\frac{3}{4}$ full).

Don't transfer the milk into the container over the manhole, because this could allow contaminated milk to spill back into the tank!



Agitation and Sampling

- Rinse the dipper and replace in sanitizer solution
- Close the tank lid
- Place samples immediately in the storage case. **Do not** submerge samples completely in the ice!

Agitation and Sampling

- Some farm bulk tanks/silos are equipped with sample cocks or sample septums. These tanks/silos cannot have their manhole or door opened for sampling. Therefore, sampling procedures are different for these tanks/silos

Example of Sample Cock



Agitation and Sampling

- Procedures for sample cocks...
- Agitate milk for 10 minutes or longer, if tank/silo manufacturers guidelines require
- Wash hands before handling equipment used to collect milk samples

Sanitize the sample cock thoroughly with a spray bottle or brush, and approved sanitizer



Dispense a small amount of milk from the sample cock, to rinse away any sanitizer residue

Hold the sample container underneath the sample cock and depress to release milk into the container



Agitation and Sampling

- Fill the sample container to the fill line (no more than $\frac{3}{4}$ full).
- Place samples immediately in the storage case. **Do not** submerge samples completely in ice!

Example of a Septum



Agitation and Sampling

- Procedures for sample septums...
- Wash hands before handling equipment used to collect milk samples
- Agitate milk for 10 minutes or longer, if tank/silo manufacturers guidelines require
- At the desired sampling time, remove the protective cover, if provided with the septum

Sanitize the septum thoroughly with a spray bottle or brush and approved sanitizer



Agitation and Sampling

- Use a new sampling port each time you collect samples from a tank/silo equipped with a septum
- The septum must be replaced when all sampling ports have been used

To begin sampling, aseptically remove the new sterile needle from its packaging, using an alcohol swab



Insert the needle through one of the unused sampling guide ports

Slant the needle slightly toward the center of the septum



Fill the sample container to the fill line (no more than $\frac{3}{4}$ full).

Take care not to touch the sample container to the needle



Agitation and Sampling

- Place samples immediately in the storage case. **Do not** submerge samples completely in ice
- Remove the needle from the septum and dispose of all single service items in the sharps container, or other container provided by the manufacturer



Agitation and Sampling

- If samples are to be transported by any unpermitted hauler, the sample storage case must be sealed
- Samples must be delivered to an approved/designated place

Pump Out Procedures

- If the milk passed all quality checks and you have completed your measuring and sampling, it is now time to load the milk onto the tanker

Pump Out Procedures

- Bring the milk hose and electrical cord into the milkhouse through the hoseport. Note: Many dairies are now equipped with on-farm pumps and hoses
- Remove cap from the tank outlet valve and check for and remove any milk deposits or foreign matter

Sanitize the outlet valve, using a brush or spray bottle and approved sanitizer



Pump Out Procedures

- Remove the cap from the milk transfer hose and store to protect from contamination

- Using a spray bottle or brush and approved sanitizer, sanitize the end of the milk transfer hose and connect to the tank outlet valve
- Start the agitator, open the tank outlet valve and start the milk pump



Pump Out Procedures

- Turn the agitator off when the milk level is low enough that over-agitation will occur (usually below the top of the agitator paddle)
- When all of the milk has been removed from the tank/silo, disconnect the milk transfer hose from the tank outlet valve, stop the milk pump, and replace the cap on the end of the milk transfer hose

Pump Out Procedures

- Observe the inside of the tank for foreign matter, extraneous material or sediment
- With the tank outlet valve open, rinse the inside of the tank with warm water

Pump Out Procedures

- Make sure the agitator and cooling units for the empty tank/silos are turned off
- Place your milk transfer hose and electrical cord back in your unit, if so equipped

Pump Out Procedures

- Before leaving the dairy, make sure you leave the milkhouse in good condition. Wash away any milk residues left from sampling or pumping. Make sure lights are out and that the milkhouse door and hoseport are closed.

Security

- In addition to your duties as a milk hauler and sampler, you also play an important role in the protection of our milk supply

To ensure that the milk on your tanker is protected, tamper-evident seals must be used on all points of access to the interior of the tanker

Inlet/outlet valves

Manhole cover

Vent tube

CIP connections



Security

- These points of access should be sealed at all times, except when the tanker is being loaded/unloaded/washed, or in immediate control of the driver
- Seals should be tamper-evident plastic ties or wire with a pressed metal seal.
- Seals should be numbered
- Locks may be used on rear compartments while loading your tanker, if so desired

Security

- Prior to leaving a plant or wash facility, verify the integrity of all seals, and make sure their numbers are recorded on the wash tag



Security

- At your first dairy farm, check the integrity of all seals.
- Before loading milk, break the seal for the rear compartment/outlet valve, and retain for traceability purposes
- **Do Not** throw seals on the ground at the dairy

Security

- At your last dairy farm, the outlet valve/ rear compartment must be sealed or padlocked
- Take a direct route to your unloading point to minimize the possibility of someone tampering with your tanker.
- Pull security seals snug when attaching to tanker access points to prevent their being cut and reused/re-attached.
- If a security seal is broken without your knowledge, contact your supervisor immediately!

Security

- Be sure to watch for any suspicious activity near your tanker during any stops
- Thanks for helping to keep our milk supply safe!!

At the Plant

Upon arrival at the plant, the milk hauler/sampler now takes on a joint responsibility with the plant receiver



At the Plant

- Deliver your tanker to its designated place
- Turn in weight tickets to designated place or personnel

Turn in samples to designated place or personnel



At the Plant

- At this time, it is your responsibility to break-down, wash, sanitize, and reassemble the milk pump, transfer hose and other appurtenances
- Before leaving the plant, make sure your tanker has been cleaned and sanitized, and has a wash tag attached

Information

- If you have any questions, please contact your local Texas Department of State Health Services Milk Group Inspector. They will be glad to answer any questions you may have.

Milk Group

Austin, Texas

(512) 834- 6758



“Let’s Roll”



From the goodness of milk