

Water Saving Tips for the Beverage Industry

GENERAL SUGGESTIONS

- Appoint a water conservation coordinator with the responsibility and authority for a water conservation program.
- Make the plant manager and other employees aware of the water conservation coordinator's function.
- Increase employee awareness of water conservation by explaining the importance of individual actions to the success of the program.
- Seek employee ideas for water conservation.
- Read water meter daily to monitor and report the success of your water conservation efforts.

SURVEY THE PLANT

A plant survey helps to establish your facility's water savings potential by identifying areas where water is wasted or where water could be reused.

- Identify the major water lines. Determine the quality, quantity, and temperature of water carried by each.
- Identify all points where water is used, including hose connections. Determine the quantity of water used at each point.
- Determine the capacity of each water-containing unit and frequency of emptying.
- Determine the capacity of each continuous discharge not yet being reused.
- Determine flow rates in floor gutters and whether the flows are adequate to prevent solids accumulation.

EVALUATE SURVEY

Review the information developed during the survey.

- Identify the major water-using operations.
- Review the water re-use practices currently employed, and develop plans to improve re-use. Study the potential for screening and disinfecting reclaimed water to increase the number of times it can be re-used.
- Evaluate the feasibility of installing cooling towers.

WATER CONSERVATION TIPS

- Install high-pressure low-volume nozzles on spray washers.
- Use fogging nozzles to cool product.
- Install in-line strainers on all spray headers; inspect nozzles regularly for clogging.
- Adjust pump cooling and flushing water to the minimum required.

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WATER CONSERVATION TIPS

- Determine whether discharges from any operation can be substituted for fresh water supplied to another operation. Discharges that can potentially be re-used are:
 - final rinses from tank cleaning, keg washers, fermenters
 - bottle and can soak and rinse water
 - cooler flush water, filter backwash
 - pasteurizer and sterilizer water.
- Areas of possible re-use are:
 - first rinses in wash cycles
 - can shredder, bottle crusher
 - filter backflush
 - caustic dilution
 - boiler makeup
 - refrigeration equipment defrost
 - equipment cleaning, floor and gutter wash.
- Use conveying systems that use water efficiently.
- Handle waste materials in a dry mode if possible.
- Replace high-volume hoses with high-pressure, low-volume cleaning systems.
- As equipment wears out, replace with water-saving models.
- Equip all hoses with spring loaded shutoff nozzles. Be sure these nozzles are not removed.
- Instruct employees to use hoses sparingly and only when necessary.
- Adjust overflows from recirculation systems by controlling the rate at which make-up water is added:
 - install float-controlled valve on the makeup line.
 - close filling line during operation.
 - provide surge tanks for each system to avoid overflow.
 - turn off all flows during shutdowns (unless flows are essential for cleanup).
 - use solenoid valves to stop the flow of water when production stops. The valves could be activated by tying them to drive motor controls.
 - adjust flow in sprays and other lines to meet minimum requirements.

EVALUATE CLEAN-UP PROCEDURES

- Sweep and shovel solid materials from the floor; do not use hoses for this purpose
- Provide an adequate number of receptacles for collecting solids and empty the receptacles frequently to prevent odor and insect problems.
- Inventory all cleaning equipment (such as hoses) provided in the plant:
Determine the number and types of units provided.
- Inventory all cleaning chemicals used in the facility to determine if they are being used correctly and if they are water efficient.

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EXTERIOR AREAS

- Wash autos, buses, and trucks less often.
- Don't use water to clean sidewalks, driveways, loading docks, and parking lots.
- Consider using mobile sweepers and vacuums.
- Avoid landscape fertilizing and pruning that stimulates excessive growth.
- Remove weeds and unhealthy plants so remaining plants benefit from the water saved.
- Do not water landscape every day; only water when needed. If water restrictions are in effect, adapt your watering schedule accordingly.
- In many cases, older, established plants require only infrequent irrigation. Look for indications of water need, such as wilting, change of color, or dry soils.
- Limit landscaping additions and alterations.
- In the future, design landscapes with native plants which require less water.
- Install soil moisture overrides or timers on sprinkler systems.
- Time watering, when possible, to occur in the early morning or evening when evaporation is lowest.
- Make sure irrigation equipment applies water uniformly.
- Investigate the advantages of installing drip irrigation systems.
- Mulch around plants to reduce evaporation and discourage weeds.
- Remove thatch and aerate turf to encourage the movement of water to the root zone.
- Avoid runoff and make sure sprinklers cover just the lawn or garden, not sidewalks, driveways, or gutters.
- Do not water on windy days.

(SOURCE: Maryland Department of the Environment)