

Acme Case Presentation

Updating Behavior and Equipment in the Lab

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General Information

- Most of what we do requires the use of a laboratory.
- Labs can be some of the most energy-consuming places in a company.
- While we try our best to be “green” and eco-friendly, there is always room for improvements.

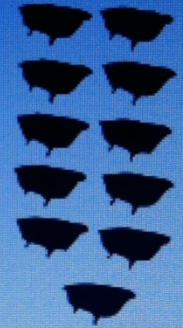
Simple Changes

- “Green” laboratory evaluations.
- “Green” labs checklist.
- Committees that monitor and assess changes.
- Incentives and penalties for “green” and poor behavior, respectively.
- Keeping fume hoods closed when not in use.
- Wash lab equipment thoroughly so use is possible more than once.
- Check for leaks in sinks, tubing, and other equipment.

THE TRUE COST OF A LEAK

It's easy to ignore that drip-drip sound, but, over the course of a year, how much water are you wasting?

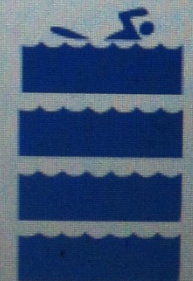
10 drips per minute wastes 500 gallons per year which is equal to 11 bathtubs of water



1 drip per second wastes 3000 gallons per year which is equal to 66 bathtubs of water



constant running wastes 72,800 gallons per year which is equal to 1617 bathtubs of water or over 4 backyard pools of water



“Green” Lab Evaluations and Checklist

- Can be done by lab personnel or committee members
 - Address: Chemical waste and use, purchasing of materials and equipment, recycling, water, waste, and training on green lab practices.

Equipment Updates

- Donate old lab equipment to universities.
- Update to energy efficient fume hoods:
 - Protector XStream Hood: with sash fully open when operated at 60 fpm face velocity consumes a mere 690 CFM
 - Traditional by-pass hoods operated at 80 or 100 fpm and consume 1250 CFM.
 - Annual dollar savings per year of \$3920.



Equipment Update

- Water misers put in place:
 - Flow control valves placed on all sinks. Can reduce water use by 50%.
 - At watermiser.com they can be found at various sizes and start at \$29.00.



Resources and prices were found at the following sites:

- http://www.upenn.edu/sustainability/sites/default/files/Green%20Labs%20@%20Penn_0.pdf
- <http://green.harvard.edu/efficient-lab-equipment-vendor-display>
- <http://www.watermiser.com/catalog.php>
- <http://www.labconco.com/product/protector-xstream-laboratory-hoods/24>