

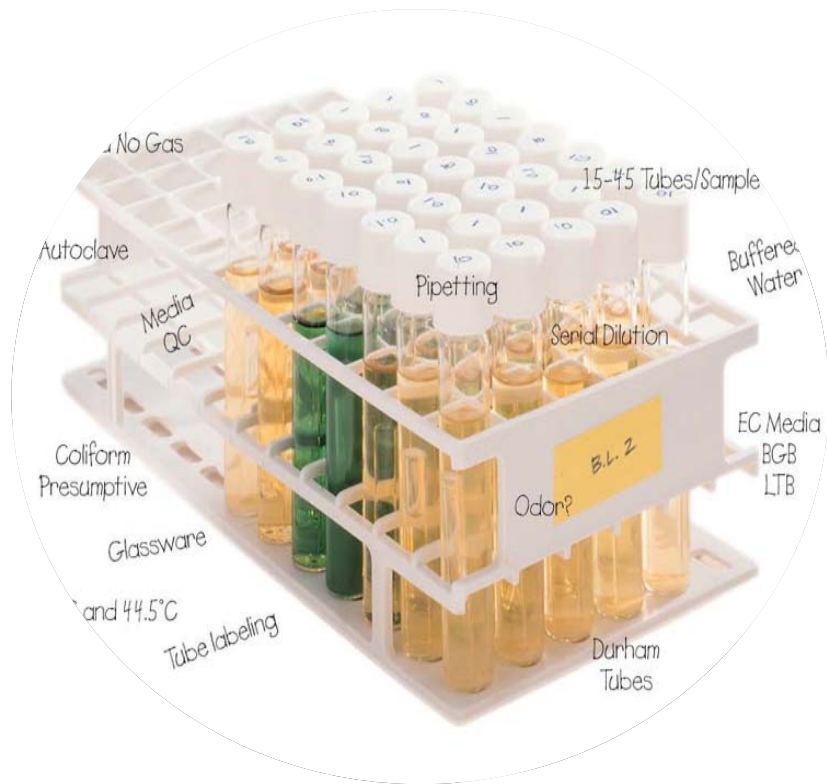


New Methods for Total Coliform Testing

Agenda

- Recycled Water Total Coliform Testing
 - Title 22 requirements for total coliform bacteria
 - New total coliform test methods
 - Why new total coliform methods?
- Questions and Discussion

Recycled Water Total Coliform Testing Title 22 Requirements



California Title 22 lists methods that are allowed for total coliform testing

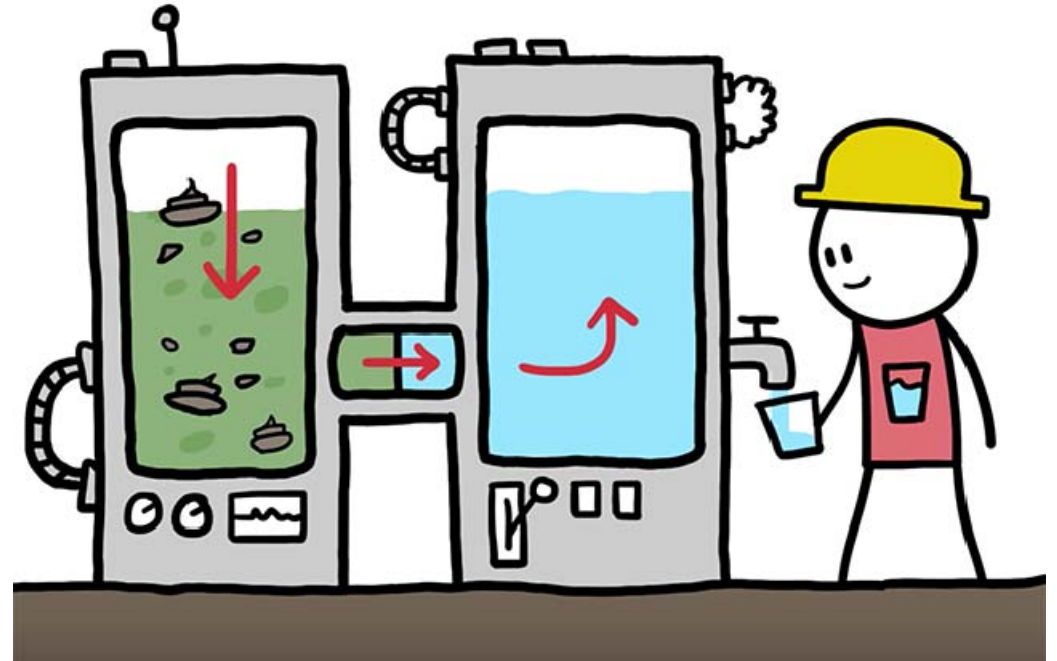
Most labs use the Multiple Tube Fermentation (MTF)

This method was chosen because the EPA approves of this method for testing wastewater
At 40 CFR part 136

Recycled Water Total Coliform Testing Title 22 Requirements

BUT....

Recycled water isn't
really *wastewater*...



So.....

Recycled Water Total Coliform Testing New Test Methods



In May 2016, the CA State Board and CA ELAP added EPA approved **Drinking Water** methods for Title 22 testing

EPA Drinking Water methods are at **EPA 40 CFR 141**

Let's review the language in the notification....

Recycled Water Total Coliform Testing

New Test Methods

Background

ELAP certifies laboratories using the EPA-approved methods listed in 40 CFR 136 for Wastewater and 40 CFR 141 for Drinking Water. However, 40 CFR does not currently list any methods for analyzing Recycled Water. Historically, ELAP has certified laboratories to test Recycled Water using Wastewater methods found in 40 CFR 136.

The Division of Drinking Water's Recycled Water Unit has determined that disinfected secondary and tertiary recycled waters meet the standards of Title 22 CCR and have a water quality much higher than that of wastewater. Therefore, total coliform sample matrices of these recycled waters are similar to samples approved for 40 CFR 141, and may be analyzed by those methods.



State Water Resources Control Board
Division of Drinking Water

Announcement Regarding Acceptable Sampling Methods for Total Coliform Monitoring in Recycled Water

This announcement is being distributed to notify laboratories that the California Environmental Laboratory Accreditation Program (ELAP) will now certify laboratories for the analysis of recycled water samples by the total coliform methods listed in Title 40 Code of Federal Regulations (40 CFR) Part 141 for these types of recycled water:

- Disinfected secondary-23 (as defined in Title 22 California Code of Regulations [CCR], Section 60301.225),
- Disinfected secondary-2.2 (as defined in Title 22 CCR, Section 60301.220),
- Disinfected tertiary (as defined in Title 22 CCR, Section 60301.230).

All results must be numerated before reporting. All other types of recycled waters must be analyzed using methods listed in 40 CFR 136.

The 40 CFR Part 141 total coliform methods are found in ELAP Field of Testing 101: Microbiology of Drinking Water. The applicability to the Recycled Water types listed above will be designated by an asterisk (*) next to the method. Laboratories currently certified for these methods do not need to amend their certificate before beginning to analyze samples; laboratories not currently certified for these methods must first apply and become accredited. For application instructions, visit ELAP's [website](#).

Acceptable Total Coliform methods for disinfected secondary and tertiary recycled waters	
40 CFR 141 (Found on FOT 101)	40 CFR 136 (Found on FOT 107)
SM 9221 B,C	SM 9221 B
SM 9222 B	SM 9222 B
SM 9223 B Colilert	
SM 9223 B Colilert-18	
SM 9223 B Colisure	
m-ColiBlue 24	
EPA 1604	

Approved: 05/20/2016



Recycled Water Total Coliform Testing

Why allow Drinking Water methods for testing recycled water?



Recycled Water Total Coliform Testing

#1. Direct Potable Reuse



- California continues to assess feasibility of Direct Potable Reuse
- Potable/Drinking water falls under US EPA Total Coliform Rule at **40 CFR 141**
- Potable water is tested for total coliform and *E coli*

Recycled Water Total Coliform Testing

#2 Public Perception

- Powerful to say “Recycled water is tested using the same methods that the drinking water plant uses”.
- This water is safe for intended use(s)



Recycled Water Total Coliform Testing



#3 Some drinking water methods allow simultaneous Total Coliform / *E. coli* results

- The current regulated target is total coliform, but most other waters are tested for *E. coli*.
- *Why does that matter?*

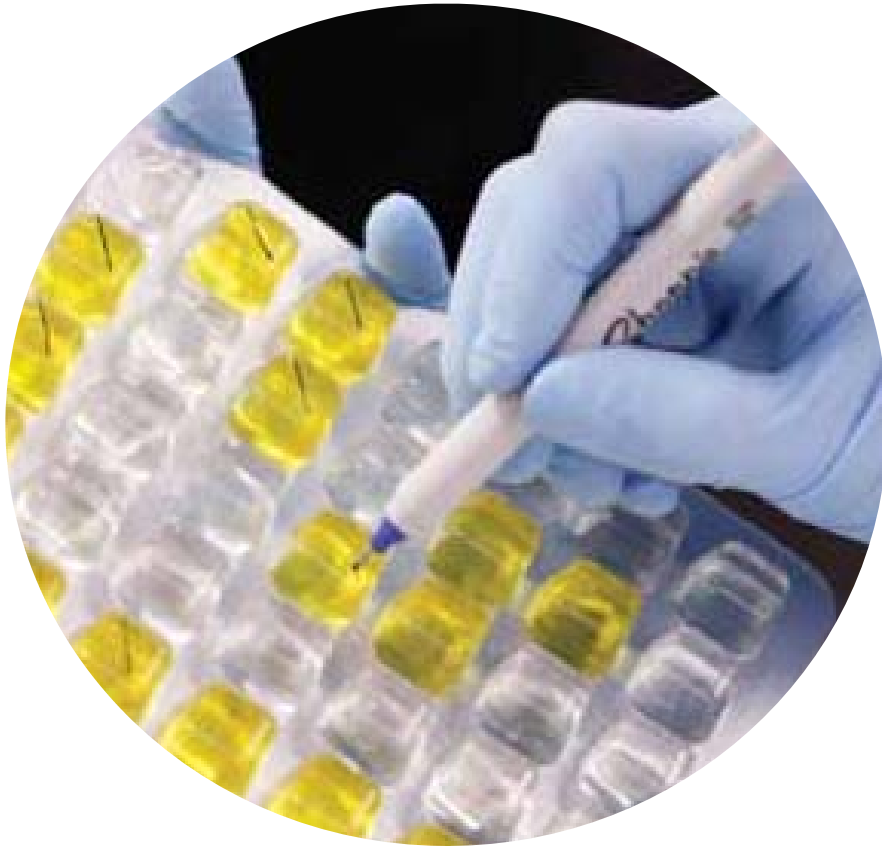
Recycled Water Total Coliform Testing

#4 Data Comparability

- Drinking water testing is Total Coliform and *E coli**
- Ground water testing is enterococci or *E coli*
- Fresh water NPDES discharge testing is/will be *E coli*
- Fresh Surface water testing will be *E coli*



Recycled Water Total Coliform Testing



#5 Easier test methods

Several of the new test method options are:

- Easier to perform (correctly)
- Faster time to results
- Simple QC steps
- 2-3 mins hands-on time
- No media preparation
- No dilutions required
- No confirmations required
- EPA approved

Recycled Water Total Coliform Testing



I
n
c
u
b
a
t
e



Recycled Water Total Coliform Testing

Overview

Why would you want to use new Total Coliform test methods?

- **Direct Potable Reuse**
- **Public Perception**
- **Some potable water methods allow simultaneous Total Coliform / *E. coli* results**
- **Data Comparability**
- **Easier, faster, more reliable test methods**

How to adopt new total coliform test methods



If the laboratory already has **FOT 101** (Micro for DW) then you don't need to do anything. You can use the FOT 101 method for recycled water testing now.

If the laboratory does not have an FOT 101 method on their Scope there are guided steps to add a method through CA ELAP.

Discussion / Questions



Thank you!

Patsy Root

Regulatory Affairs Manager

Patsy-Root@IDEXX.com

Tel 207 556 8947

Mobile 207 523 0835