



Why Culture?

Protect yourself
and your clients

Verify your
program works

Keep Control:
respond don't react

**Culture is the
gold standard
for Legionella**

- Identifies species and serogroup of the Legionella
- Selective culture media inhibits other bacteria, allowing *Legionella* to be detected
- No false positives. A positive Legionella culture—colonies of Legionella growing on a petri dish—means Legionella was in the water sample.
- Verifies efficacy of disinfection efforts

**Rapid tests
are unreliable**

- Dip slide tests not reliable for *Legionella* presence / absence
- Direct Fluorescent Antibody (DFA), Polymerase Chain Reaction (PCR), and Immuno Chromatographic Test (ICT) may be faster but can't differentiate between live and dead bacteria
- Can result in unnecessary and expensive decontamination procedures
- Cannot reliably quantify Legionella in a water sample

**Studies show
limitations**

- False Negative DFA Results (Vickers RM, Stout JE, Yu VL. Appl. Env. Microbiol. 1990)
- Poor Correlation Between PCR and Culture Results (PCR Pos/Culture Neg; PCR Neg/Culture Pos) (Mietzner SM, Pratima Adhikari, Stout JE, Yu VL. Interscience Conference on Antimicrobial Agents and Chemotherapy 2008)
- *Legionella* Detection Limit for rapid test (like ICT) are high ($\geq 1,000$ CFU/ml) before turning positive (Stout JE. Assoc. Water Technology 2000)

**CDC cautions
against
nonculture
methods**

- Test for the presence of Legionella by using semi selective culture media
- Detection of Legionella by the direct fluorescent antibody technique not suitable for environmental samples
- Use of PCR for detection of Legionella not recommended until more data regarding the sensitivity and specificity of this procedure are available

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