

## DIY easy and repeatable *E. Coli* colony counting

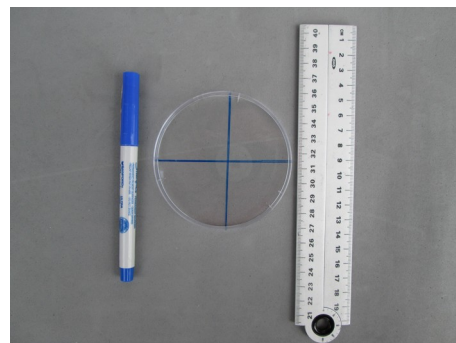
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### Introduction:

You've spent the time culturing *E. Coli*. Now comes the real challenge:

- How do you accurately count the colonies?
- As a quality control, can you repeat the count and get the same answer?

I struggled with those questions and here is how I do my counts. I'm not a trained bacteriologist, so perhaps they'd do it differently. What I found is my method is much faster, more accurate, and very repeatable compared to counting the colonies in a big, round area.



*Photograph by Craig L. Page*

The idea is to break the big circle into smaller pie-shaped slices and then count the colonies in each slice. Finally, you tally the slice-counts for a final count in each dish. If you repeat the counting process, the tallies should be the same.

### Materials Required:

- 1 ea. marking pen. I prefer a Sharpie Ultra fine point in either black or blue.
- 1 ea. straight-edge used to draw two lines.
- 1 ea. small strip of transparent tape.

### Make-it Steps:

1. Use a straight-edge and pen to draw a large plus sign ('+') on the cover of the dish. It doesn't have to be measured precisely, eye-balling the lines is sufficient.
2. Examine how the lines fall on the bacteria colonies. I turn the top so that few, if any, countable bacteria colonies fall on the lines.
3. Use the strip of tape on one the side of the dish to make the dish top and bottom one-piece. This is so the top can't turn, if you should rotate the dish.

### Use-it Steps:

1. In each of the four slices, count the bacteria colonies of interest and write the number on the paper. I make four lines, in a column so I can add them later. The rule I use, if a colony is on one of the lines: I count the colony in the slice clockwise from the line. (It really doesn't matter if you choose clockwise or counter-clockwise, as long as you are consistent.)
2. After the four slice-counts are made, sum them for a total. Note, that you can recount any slice and compare it with the previous count.
3. Enter your count-total on the datasheet.
4. Repeat the procedure on the other dish.
5. Log in to the UWW site and record your findings. *Fini!* (Oh, don't forget to dispose of the bacteria dishes properly and decontaminate everything.)