

Spiral plate colony counting

Spiral plating is used in the food and pharmaceutical industries. Laboratories requiring to quantitatively determine the number of total viable counts (TVC) of a large number of food samples often use a spiral plate counter. The spiral plating method uses a dispensing stylus that deposits a syringe drawn sample onto a rotating agar plate in a spiral pattern. The ProtoCOL system provides automatic counting of bacteria on these types of plates.

Applications

The spiral plate method is used for a variety of applications including testing for pathogens and spoilage bacteria in the food industry. In the pharmaceutical industry spiral plating is used for preservative challenge testing (PET), kill curves and susceptibility testing with Spiral Gradient Endpoint (SGE) test. Agriculture and environmental industries utilize spiral plates for bio-pesticide challenges, frost prevention and leaf studies.

Visualization

Plates are illuminated either from below or using reflected and/or transmitted light.

The ProtoCOL uses a unique combination of red, green and blue light to illuminate plates.

	Lighting	Background
Light colonies	Reflected light	Black
Dark colonies	Reflected light and illumination from below	White

Table 1 - Recommended lighting and background selection for counting colonies on the ProtoCOL system

N.B. If there is writing on the bottom of the plate then using a black background is preferable

Counting

The ProtoCOL system counts spiral colony plates by counting colonies in the outer sector of the upper half of the spiral and the outer lower sector of the spiral. If this count is less than the minimum count rule value (~20 counts) the ProtoCOL colony counter will automatically count the whole plate.

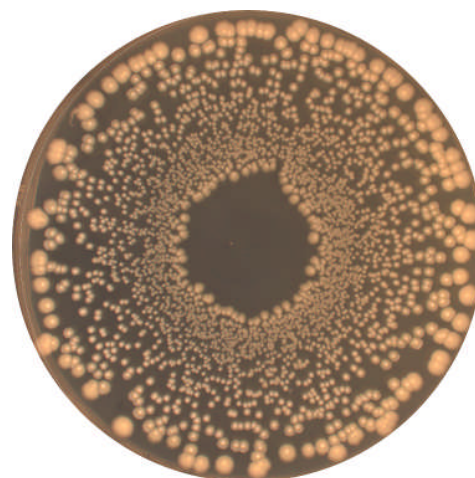


Figure 1 –Spiral plate
E.coli bacteria were grown on nutrient agar for 24hrs at 44°C. The plate was imaged using reflected light and a black background.

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12.07.09

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