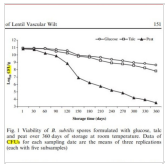

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Measuring the amuont of bacteria in a soil sample

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ABSTRACT

Colony Forming Units (c.f.u) is a unit that is used in microbiology to estimate the number of viable bacteria or fungal cells in a sample. It also depends on their ability to multiply under controlled conditions. In the paper published by *El-Hassan and Gowen, 2006*, they analyzed various formulations of *Bacillus subtilis* by counting the CFU of B. subtilis present in every formulated product.

S. A. El-Hassan and S. R. Gowen (2006). Formulation and Delivery of the Bacterial Antagonist Bacillus subtilis for Management of Lentil Vascular Wilt Caused by Fusarium oxysporum f. sp. lentis. Journal of Phytopathology, Volume 154, Issue 3.
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CFU determination

1 Colony Forming Units (CFU) can be determined by estimating the OD of spore suspension using a tube-reading spectrophotometer adjusted at 1.978 [corresponding to 8.5 · 1010 CFU/ml] at 600nm absorbance wavelength

2 The formulation will be placed on sterile aluminum foil in pans and air-dried for **24:00:00** with occasional stirring in a laminar airflow cabinet.

3 Dried formulations (35% moisture content) of B. mycoides will be passed through a 250µm mesh sieve to attain the desired particle size.

4 Pack in sterilized polypropylene bags, seal and store at room temperature prior to use.

5 Count CFUs to estimate the number of viable propagules of B. mycoides using the standard dilution platin method described in step 6.

Standard dilution method

6 Take three **1 g** aliquots of the dried powder and place in **99 mL** sterile PBST solution (this will include PBS + **0.05 % (v/v)** Tween 20). Stir magnetically at high speed for **00:15:00** . Now dilute this suspension with approximately and take **0.2 mL** of this suspension and plate on Nutrient Agar (NA) media.

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