

Reduction of bacterial load after UVC disinfection with D25

A laboratory test with a spore-forming bacteria (*Bacillus cereus*) and *Acinetobacter* (antibiotic resistant).

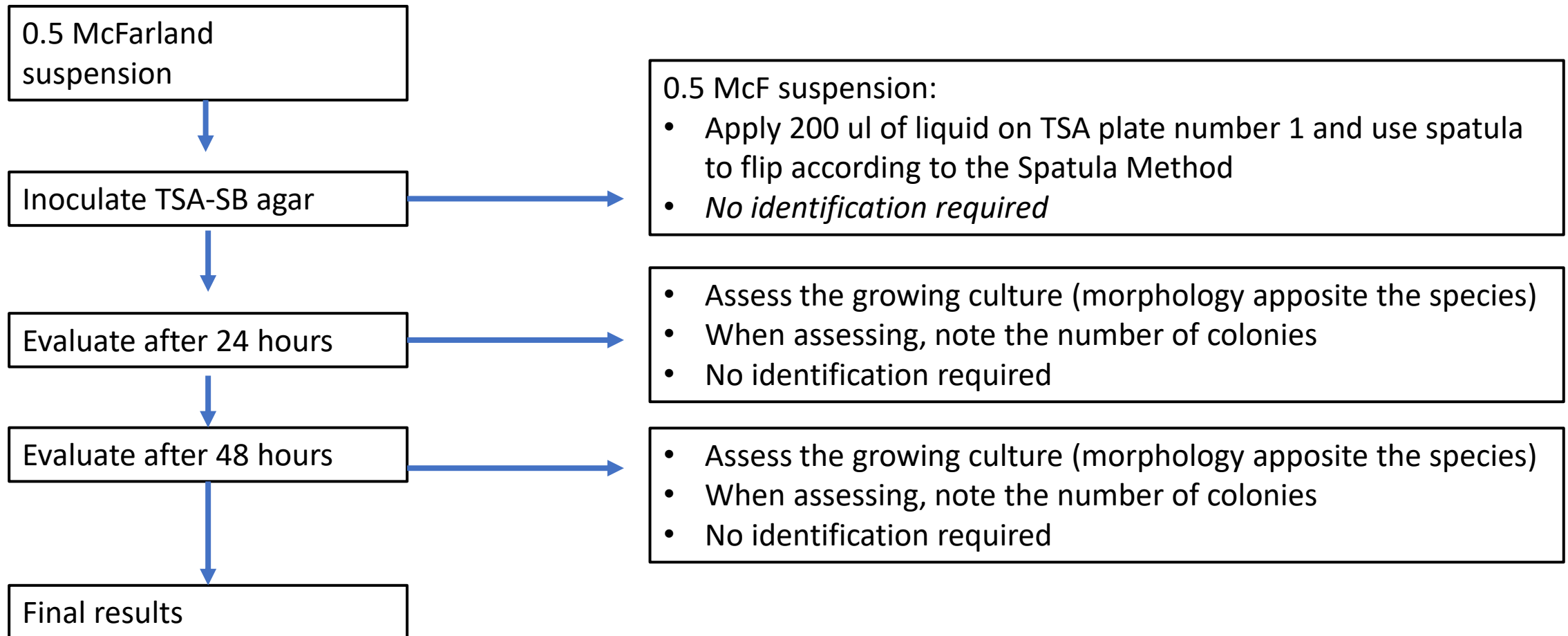
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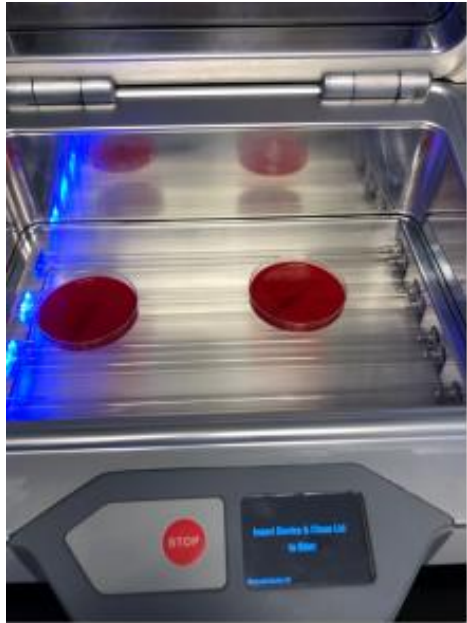
Method

- Bacterial strains and McFarland suspensions
- Breed the bacillus and MDR-Acinetobacter strains and prepare 0.5mcF suspensions with the isolates.
- (corresponds to $1-2 \times 10^8$ CFU / mL [reference EUCAST: <https://bit.ly/2PwQXo2>])
- Use 0.5 McF suspension within half an hour before the experiment
- Per bacteria species, inoculate 2 TSA-ASB agars with the 0.5 McFarland suspension
- Per bacteria species, place 1 inoculated TSA-ASB agar in the D25 and 1 outside the D25.
- Irradiate the TSA-ASB agars in the D25
- Incubate all 4 agars (irradiated and non-irradiated) at 35°C and evaluate after 24 and 48 hours according to the scheme of culture method.

Culture method



Method



Agar plates with 0.5McFarland suspension inoculated bacteria strains in the D25. The lid of the agar plates has been removed

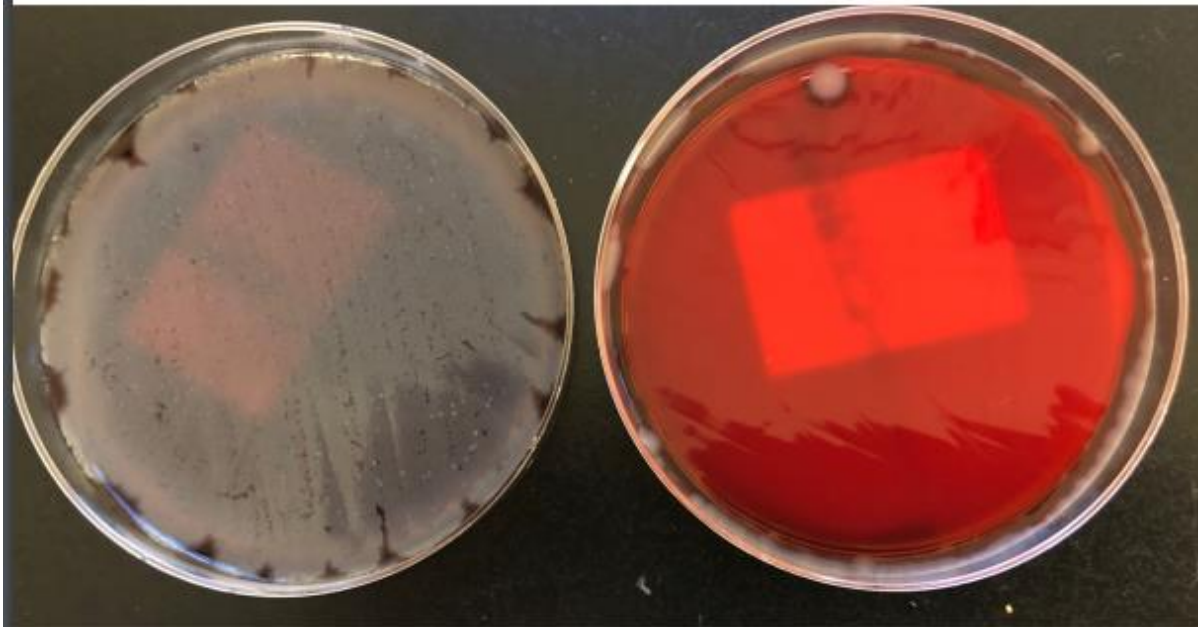


Agar plates with 0.5McFarland suspension inoculated bacteria strains next to the D25 (non-irradiated controls)



Irradiation of the agar plates with 0.5McFarland suspension bacteria stems in the D25

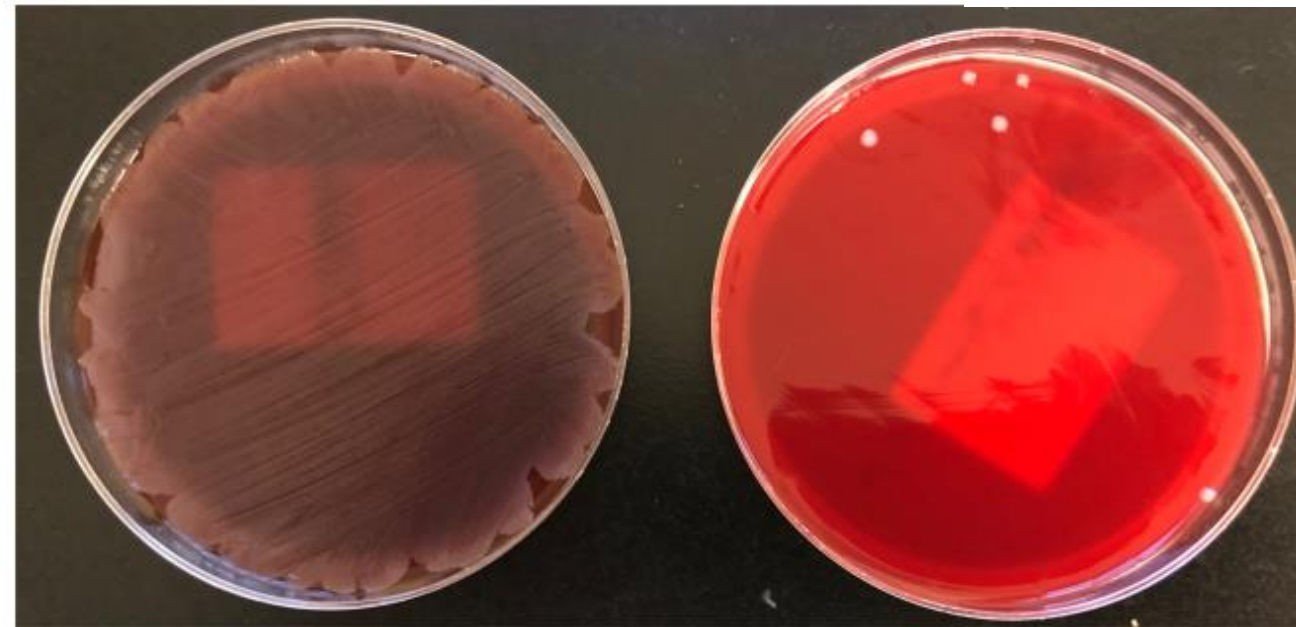
Bacillus Cereus



Left:
After 24 and 48 hours growth of 0.5 McFarland suspension of MDR Acinetobacter species without UVC irradiation of D25.

Right:
After 24 and 48 hours growth of 0.5 McFarland suspension of MDR Bacillus Cereus species after 25 sec UVC irradiation in D25

Acinetobacter



Left:
After 24 and 48 hours growth of 0.5 McFarland suspension of MDR Acinetobacter species without UVC irradiation of D25.

Right:
After 24 and 48 hours growth of 0.5 McFarland suspension of MDR Acinetobacter species after 25 sec UVC irradiation in D25

Conclusion

- The UV Smart D25 is an effective device to eliminate the *Bacillus Cereus* and *Acinetobacter* to $>\log 5$.