

BACKGROUND

What?

- ❖ Superbugs are bad bacteria that are difficult to treat because medicines no longer work as well against them

Why Care?

- ❖ 4.7+ million deaths per year due to superbugs
- ❖ By 2050: 39 million deaths and \$100 trillion in economic costs
- ❖ This problem especially targets vulnerable people

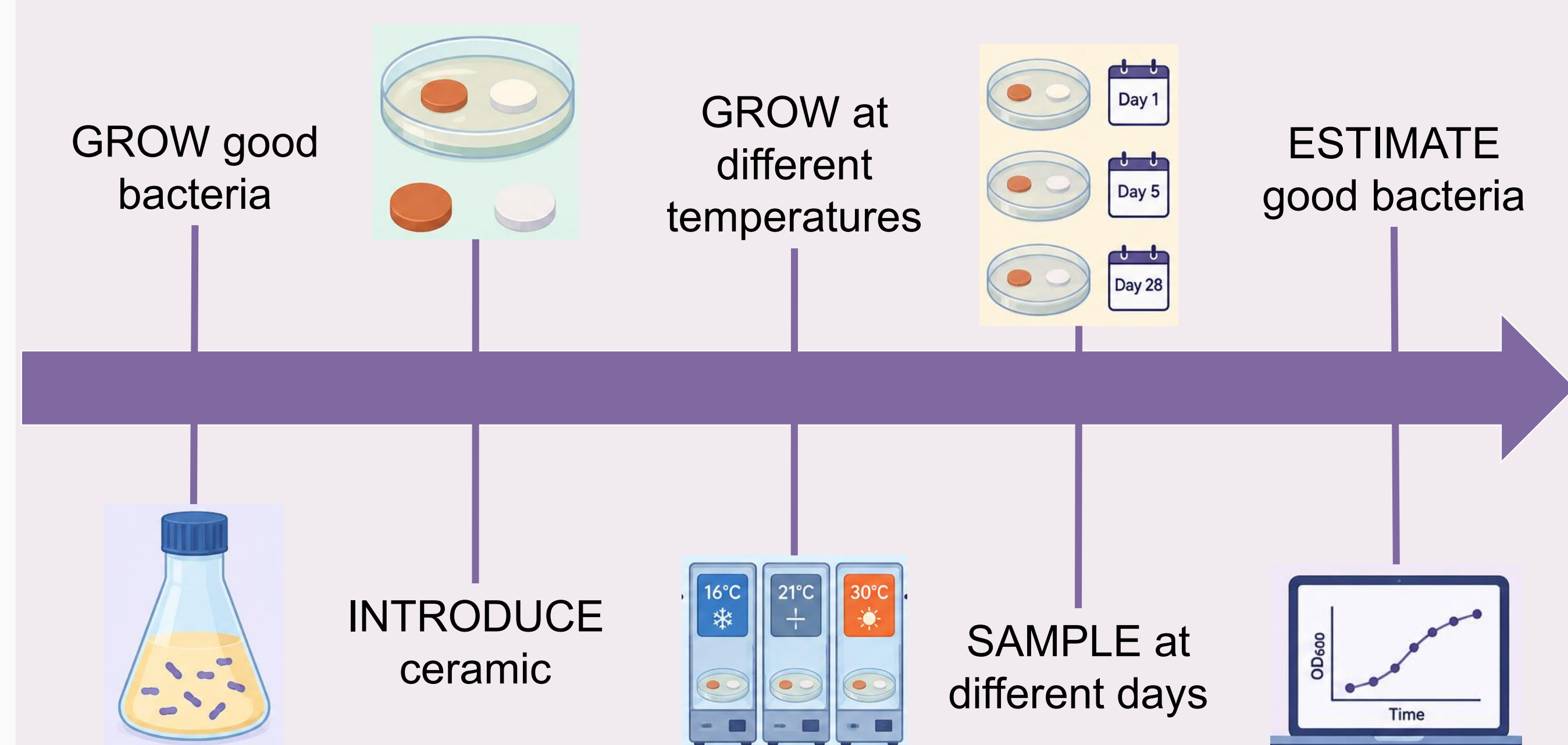
The Idea

- ❖ Instead of killing bad bacteria, what if we used good bacteria to stop bad bacteria from taking over inside our homes?
- ❖ We put good bacteria onto ceramic surfaces
- ❖ These bacteria could help keep harmful bacteria away

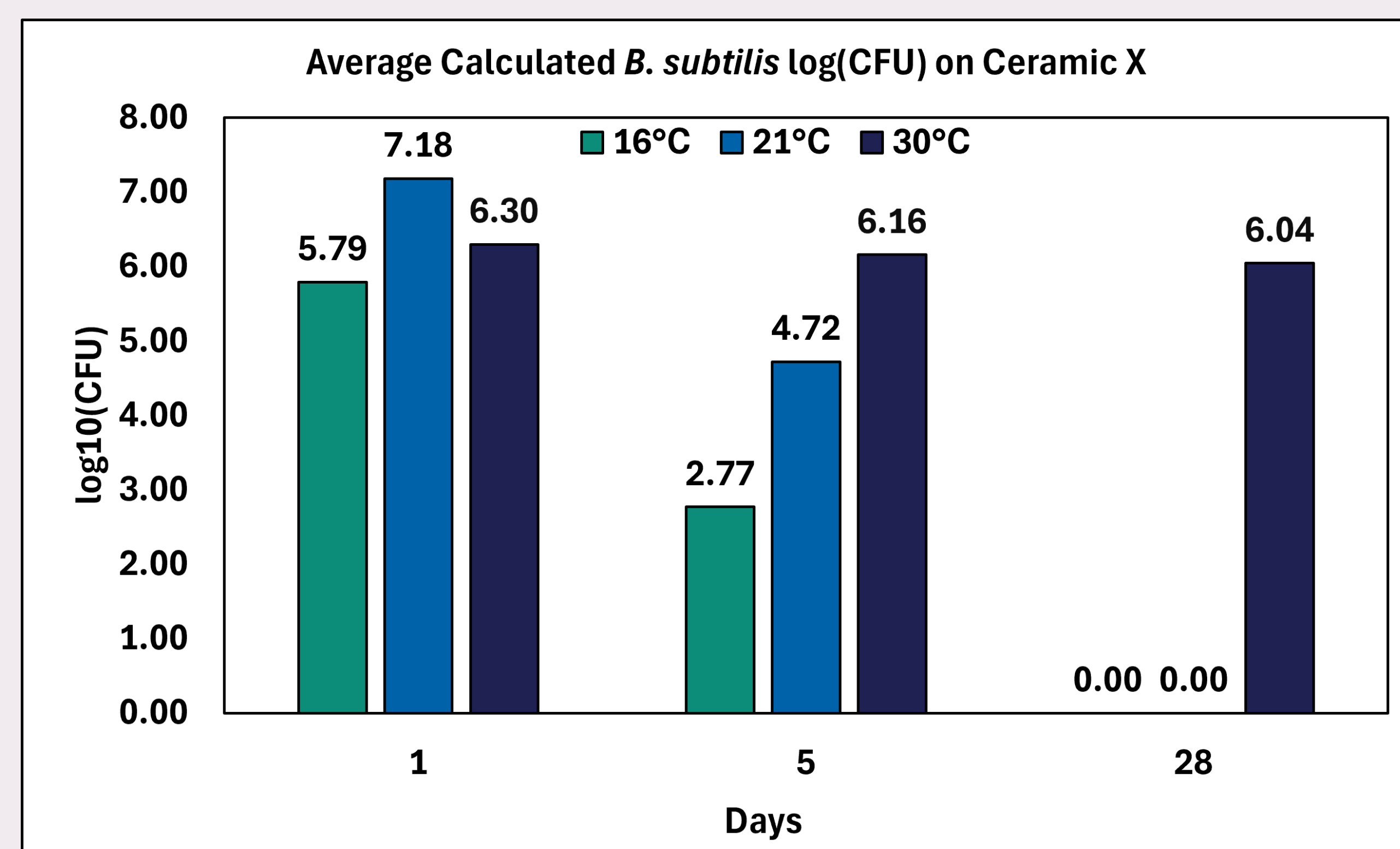
Our Aim

- ❖ Can good bacteria survive on ceramic surfaces?
- ❖ Which temperature helps them survive best?

METHODS



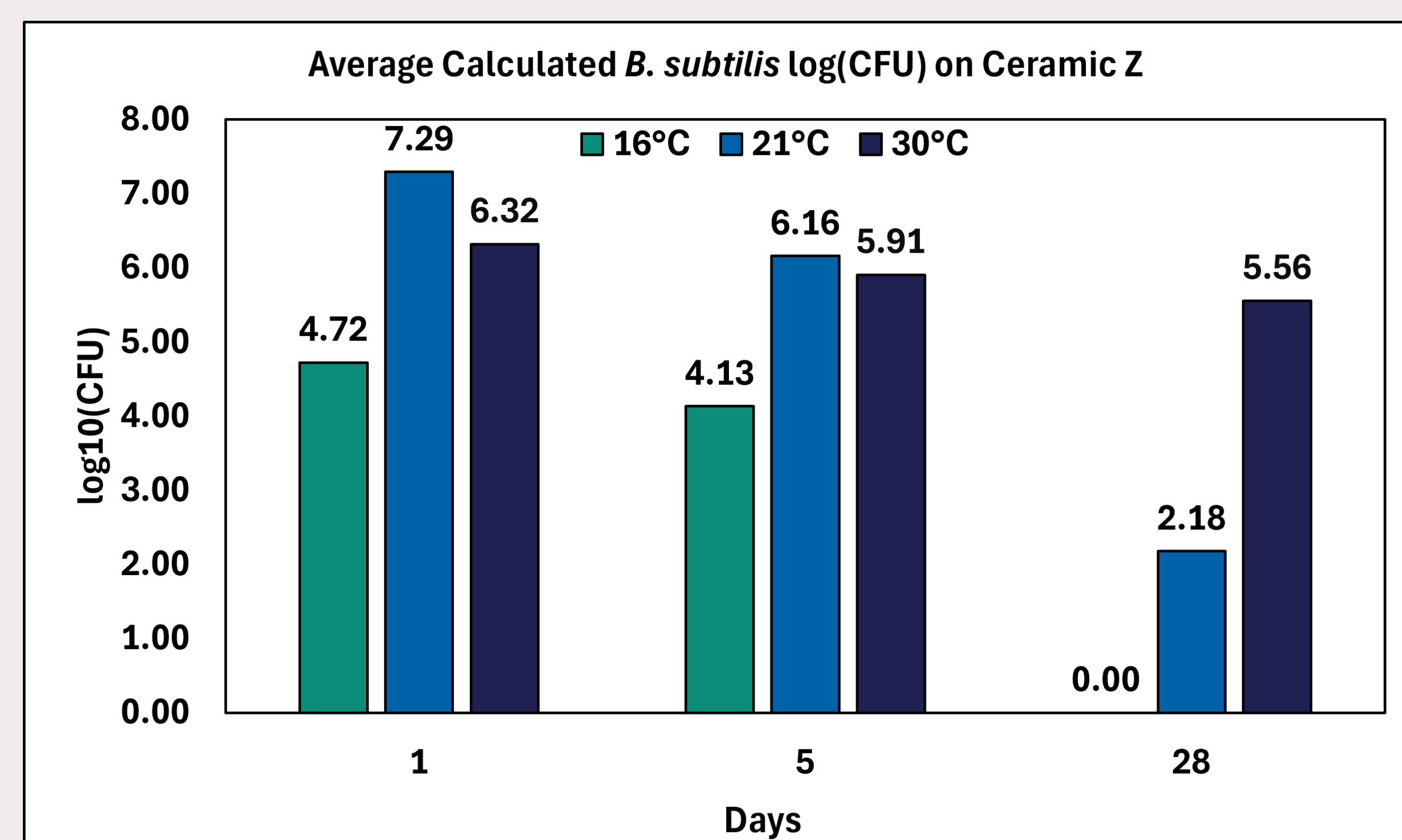
RESULTS



Cold led to the biggest drop in good bacteria

The type of ceramic affected how long the good bacteria survived

Bacteria survived best at 30°C



DISCUSSION

Cold = less survival

- ❖ Cold conditions may have slowed cell activity, making survival harder over time

Ceramic Matters!

- ❖ Different ceramics may create different environments for bacteria

Hot = more survival

- ❖ Hot conditions supported good bacterial survival, but limited nutrients prevented major growth

CONCLUSION

What did we learn?

- ❖ Temperature was the biggest influence on good bacteria survival
- ❖ Both ceramic materials could support good bacteria survival
- ❖ More research is needed to tell whether these good bacteria can keep bad bacteria away

LIMITATIONS / FUTURE WORK

What are the boundaries of this study?

- ❖ Only 2 trials per condition per day and 3 temperatures tested
- ❖ Only measured survival, not good bacteria's ability to stop bad bacteria

What about next time?

- ❖ Test more samples at varying temperatures
- ❖ Test if good bacteria can stop the bad bacteria in these conditions
- ❖ Test other conditions like sunlight and moisture



Access to paper, references and LinkedIn

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