



# Inactivation of *Campylobacter jejuni* on Poultry by High Hydrostatic Pressure

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## Did you know?

**Campylobacter** is the leading cause of bacterial related diarrheal diseases in developed nations. Most infections are linked to handling and consumption of raw and undercooked poultry. For example, an estimated 2-3 million people in the US were infected each year. High Hydrostatic Pressure (HHP) is an alternative technology to thermal processing. HPP can improve the texture in meat products while preserving the content of nutrients such as vitamins and minerals. However, little research has been done on the pressure resistance of *C. jejuni* in poultry meat samples, it was therefore the aim of the study.

## Results

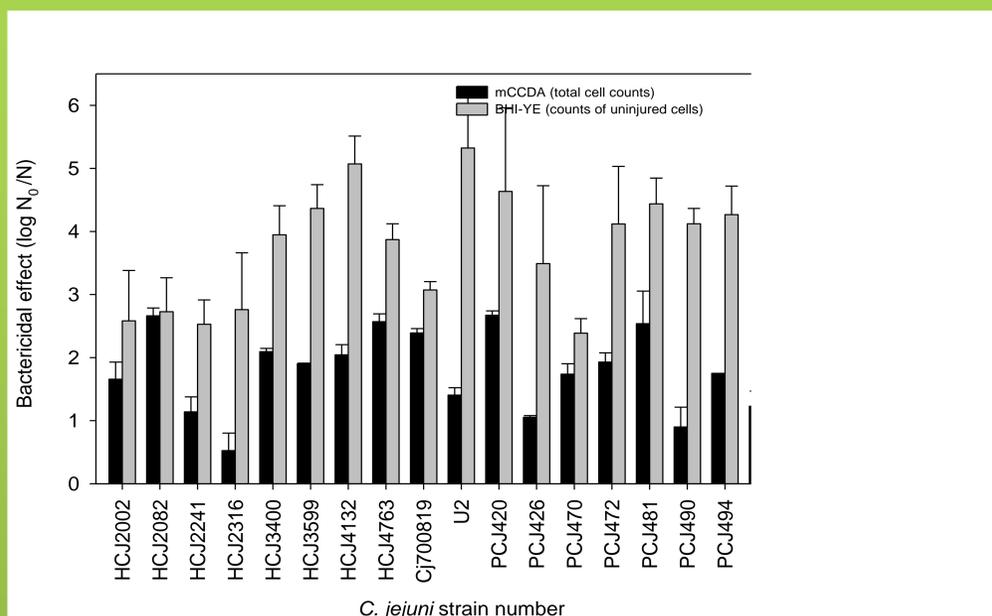


Figure 1. Treatment of meat and bacteria mixture at 300 MPa, 30 °C and 3 min

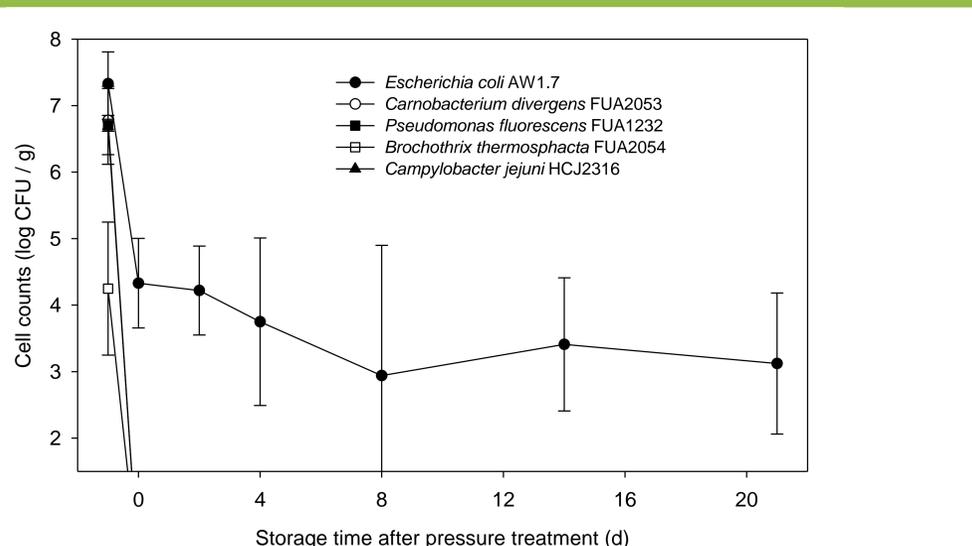


Figure 2. Treatment of meat and bacteria mixture at 400 MPa, 40 °C and 30 min

## Materials and Methods



*Campylobacter jejuni* and poultry spoilage organisms were mixed into aseptically prepared meat batter



Pressure treatment at 300 MPa and 400 MPa

Bacteria count and comparison before and after pressure treatments

## Conclusion

- ❖ Strains of *C. jejuni* exhibit a large variation in pressure resistance. The pressure resistance of *C. jejuni* also depends on the enumeration media. The presence of iron plays a critical role for the recovery of *C. jejuni* after pressure treatment.
- ❖ Pressure treatment at 400MPa, 40 °C and 30 min safely inactivates *C. jejuni*, but is not sufficient to inactivate *Escherichia coli*.

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