Addressing airborne viruses in meat and poultry processing facilities: a proactive approach.

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A. BP settle on surface

B. Remove BP from surface

C. Innoculate virus onto agar/bacteria

D. Read results by counting plaques

Example Result #1: 7 active viral particles (0% disinfectant efficiency)

Example Result #2: 0 active viral particles (100% disinfectant efficiency)
In California, the excess deaths in the food/agriculture sector was double than for the healthcare sector (75 per 100,000 vs 30 per 100,000, March through November 2020).
April - June 2020 the median cluster size in food processing facilities was 70 cases, second only to prisons and cruise ships.

Excess mortality associated with the COVID-19 pandemic among Californians 18-65 years of age, by occupational sector and occupation: March through November 2020 DOI: 10.1371/journal.pone.0252454

What settings have been linked to SARS-CoV-2 transmission clusters? DOI: 10.12688/wellcomeopenres.15889.2
Meat Processing Plants (MPP)

By July 21st, 2020, MPPs were associated 6%-8% of all US cases and 3-4% of all US deaths (4300 to 5200 deaths)

Between April and June Median Cluster Size MPP: >100 Cases
What settings have been linked to SARS-CoV-2 transmission clusters? DOI: 10.12688/wellcomeopenres.15889.2

<table>
<thead>
<tr>
<th>Installation</th>
<th>Country</th>
<th>Locality</th>
<th>Date Published/Accessed</th>
<th>Total Number of Cases Per Cluster</th>
<th>Final Attack Rate</th>
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<td>Cedar Meats Australia</td>
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</table>

14/20 media reported food processing clusters in April-July 2020
Communities with and without meat processing plants January 22, 2020 and October 3, 2020

COVID-19 Economic Impacts

In the US: pig, and cattle slaughter reduced by about 40% in April 2020 compared to April 2019.

$13.6 billion dollars loss in April 2020 alone.

12 plants in US are responsible for 50% of all pork production, 50 plants for 98% of all beef production.
• 87% of all MPP workers belong to ethnic or racial minorities (CDC).

• Minorities account for 80% of all COVID-19 cases in MPPs.

• 50% of MPP workers in the US are immigrants (70% assembly line workers).

• 14% of assembly line workers are undocumented.
Update: COVID-19 Among Workers in Meat and Poultry Processing Facilities — United States, April–May 2020

Meat and poultry processing facilities should:

- Provide culturally appropriate health education materials
- Screen workers for possible infection
- Encourage hand hygiene and use of face coverings
- Increase space between workers
- Encourage workers to take sick leave when needed

*Race/ethnicity reported for 61% of cases

CDC.gov bit.ly/MMWR7720

MMWR
As COVID-19 spread in NC meatpacking plants, workplace complaints piled up. *Carolina Public Press July 28th 2020*

“No safety violations”

No fines over COVID-19 complaints at NC meatpacking plants
*News and Observer August 10th 2020*
Questions

• How widespread are the adoption of these airborne virus control measures?
• How well do those control measures work in the particular conditions of a meat packing environment?
How widespread are the adoption of these safety measures?

How well do those control measures work in a meat packing environment?
Tackling Airborne Virus Threats in the Food Industry: A Proactive Approach
https://doi.org/10.3390/ijerph18084335
Our model of the disinfection of airborne viruses from surfaces.

A. BP settle on surface

B. Remove BP from surface

C. Innoculate virus onto agar/bacteria

Example Result #1: 7 active viral particles (0% disinfectant efficiency)

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7 viral particles
Is there something unique about the environment meat factories that promotes COVID-19 transmission?

Studies:
- **High humidity, low temperature**
- Assembly line speed
- Air flow/Air exchange
- Efficacy of barriers (what materials?)
- Air scrubbing technologies (UV, bipolar ionization).

Recommendations about Airborne Virus Control in a Meat Packing Environment Based on Empirical Evidence
• Thank you for Listening

• Questions/Comments/Suggestions?
COVID-19 Vaccinations:
Your best shot at stopping COVID-19.

You have a spot, take your shot. A tested, safe and effective vaccine will be available to all who want it, but supplies will be limited at first. To save lives and slow the spread of COVID-19, independent state and federal public health advisory committees recommend first protecting health care workers, people who are at the highest risk of being hospitalized or dying, and those at high risk of exposure to COVID-19. Keep practicing the 3 Ws—wear a mask, wait six feet apart, wash your hands—until everyone has a chance to get vaccinated.

1. Health Care Workers and Long-term Care Staff and Residents

2. Older Adults

3. Frontline Essential Workers

4. Adults at Higher Risk for Exposure and Increased Risk of Severe Illness

5. Everyone

Our goal is to vaccinate as many people as quickly as possible given the limited supply of vaccines. North Carolina moves through vaccination groups by aligning to federal priorities while empowering local health departments and hospitals with flexibility to move to the next priority group as they complete groups and have vaccines available.

For more information: YourSpotYourShot.nc.gov