



Generic E. coli Verification

Division of Food and Recreational Services, Bureau of Meat and Poultry Businesses

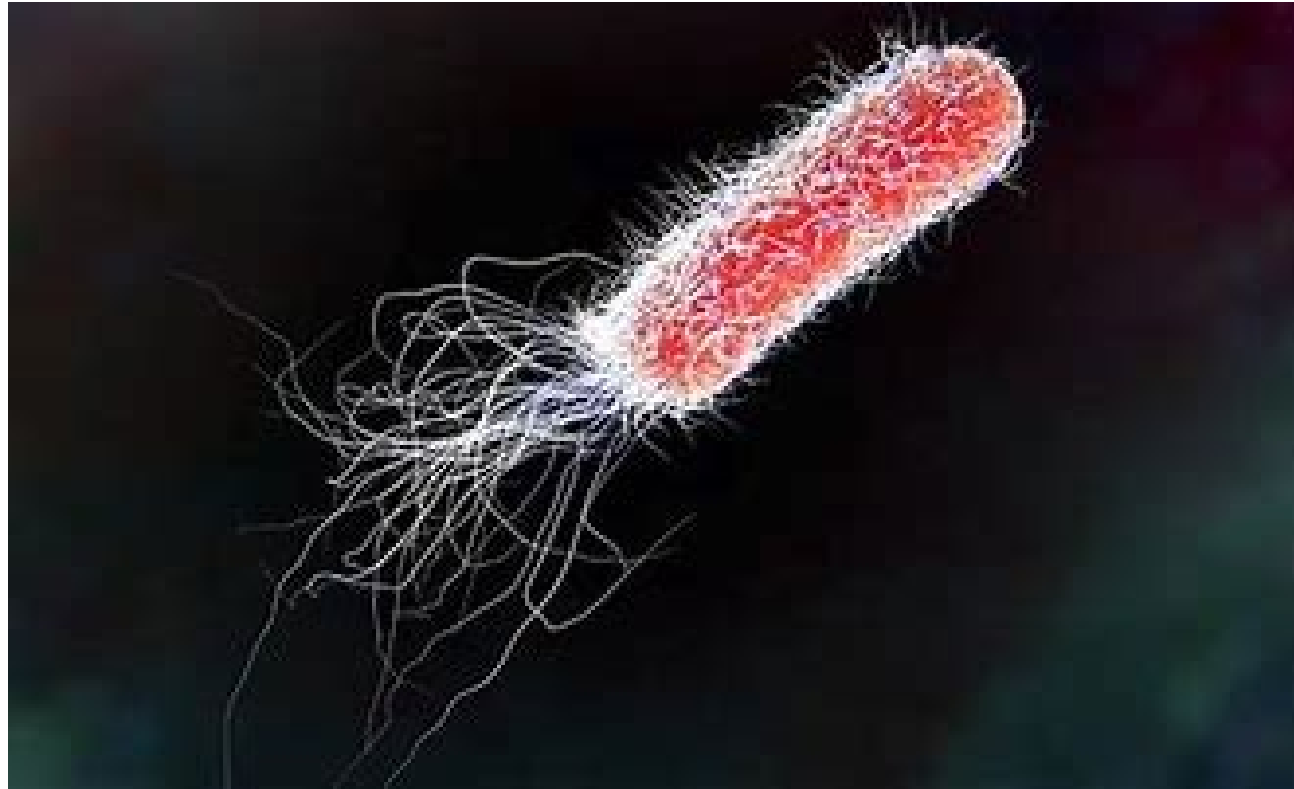
WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

May 3, 2024

PURPOSE OF GENERIC *E. COLI* VERIFICATION:

To verify the effectiveness of sanitation and process control in slaughter establishments





GENERIC *E. COLI* IS AN INDICATOR ORGANISM WHICH GIVES AN ESTABLISHMENT A WAY TO DEMONSTRATE THEIR PROCESS IS IN CONTROL.



Generic *E. coli* IS NOT *E. coli* O157:H7 and is not an STEC (Shiga toxin producing *E. coli*)

E. coli O157:H7 is the most common STEC.

There are 6 more serotypes of Shiga toxin producing *E. coli*: (O26, O45, O103, O111, O121, O145)



CRITERIA FOR VERIFYING PROCESS CONTROL

Livestock slaughter establishments (except swine) must have a generic *E. coli* sampling program (9 CFR 310.25(a))

Swine slaughter establishments must have a process control sampling program for an indicator organism (9 CFR 310.18(c))

Poultry slaughter establishments (except ratites) must have a process control sampling program for an indicator organism (9 CFR 381.65(g))

Each slaughter establishment must sample the correct type of livestock or poultry – the most prevalent species from last year.



9 CFR 310.25(A)(2)(I): ESTABLISHMENTS MUST HAVE WRITTEN PROCEDURES WHICH SHALL IDENTIFY:

- Who is collecting the sample
- The process of collecting the sample
- Location of the sample collection
- How sampling randomness is achieved
- Sample handling to ensure sample integrity



SAMPLING PROCEDURES:

Cattle, sheep, goats: sponge (or excise) tissue on the

1. flank

2. brisket

3. rump



Swine: sponge (or excise) tissue on the

1. ham

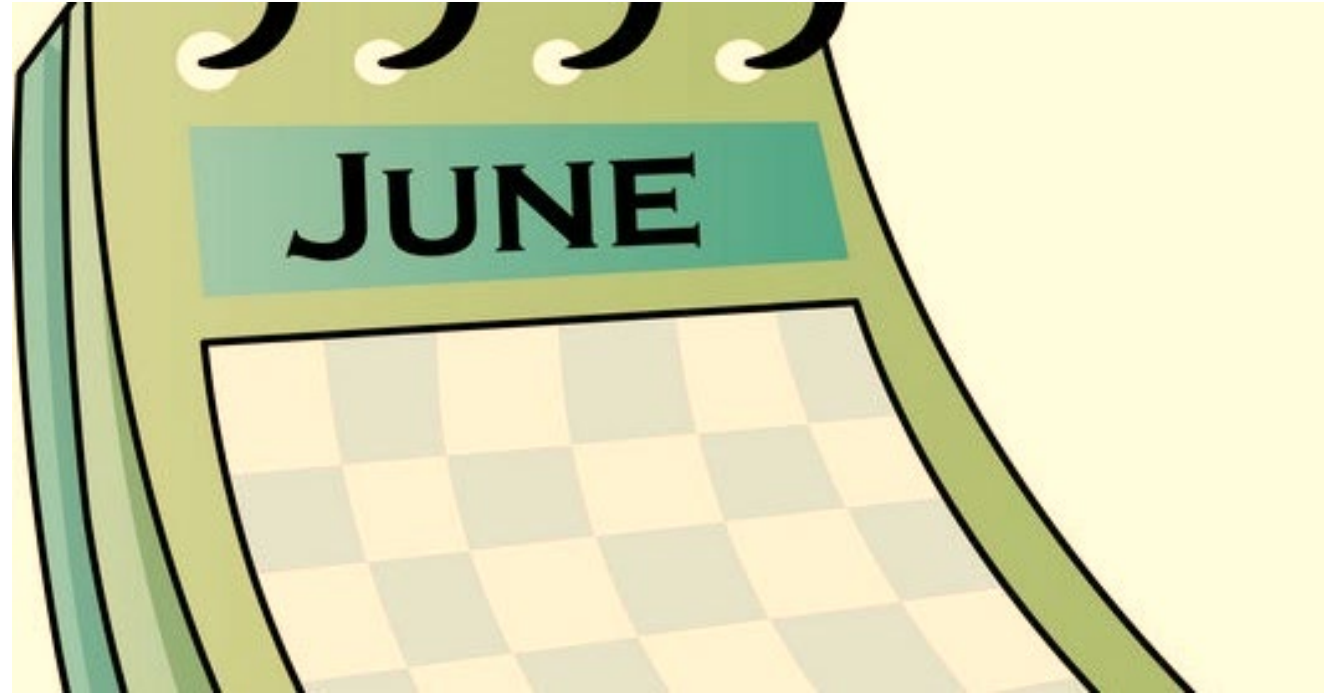
2. belly

3. jowl



SAMPLING PROCEDURES: FREQUENCY

- ❖ At least one sample per week starting the first full week after June 1
- ❖ 13 samples need to be collected



SAMPLING PROCEDURES: RECORDS

9 CFR 310.25(a)(4):

- Results need to be reported at CFU/cm²
- Results need to be recorded on a chart or graph
- Results need to show the last 13 samples



RECORD RETENTION

9 CFR 310.25(a)(4) (continued):

- Records shall be retained for a period of 12 months
- Records shall be made available to inspection personnel upon request



SAMPLE COLLECTION BY ESTABLISHMENT



Random carcass selection



Timing of sample collection – chilled at least 12 hours



Establishments need only sample the predominant species harvested



STATISTICAL PROCESS CONTROL

Uses a plant's own data to establish "normal" standards for that establishment.

In 2005, FSIS published a docket (02-046N) listing data collected on different species using the sponging technique to serve as a guideline for small establishments



FSIS GUIDELINES FOR SPONGING TECHNIQUE

Class of product	Method	80 th percentile (lower control)	98 th percentile (upper control)
Livestock (cattle, sheep, goats)	sponge	0.0 CFU/cm ²	3.1 CFU/cm ²
Swine	sponge	0.46 CFU/cm ²	400 CFU/cm ²

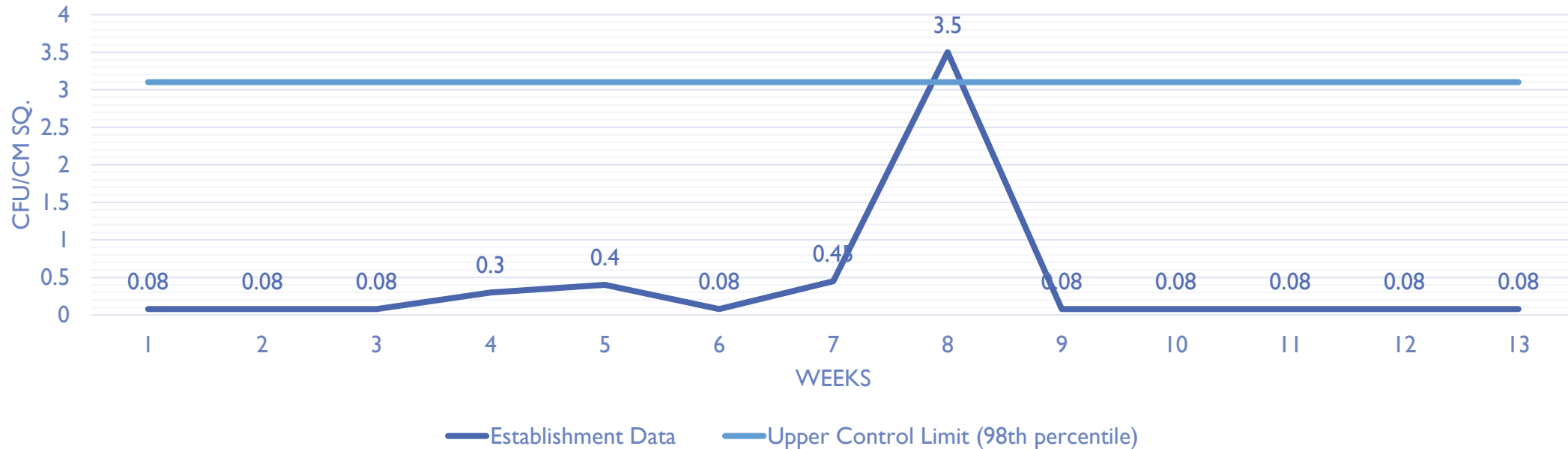


WELL-CONTROLLED PROCESS

NORMALLY SHOW SMALL TO MODERATE VARIATION AROUND THE DESIRED RESULT OVER TIME

OCCASIONALLY PRODUCE RESULTS WELL OUTSIDE THE NORMAL RANGE THROUGH RANDOM STATISTICAL VARIATION

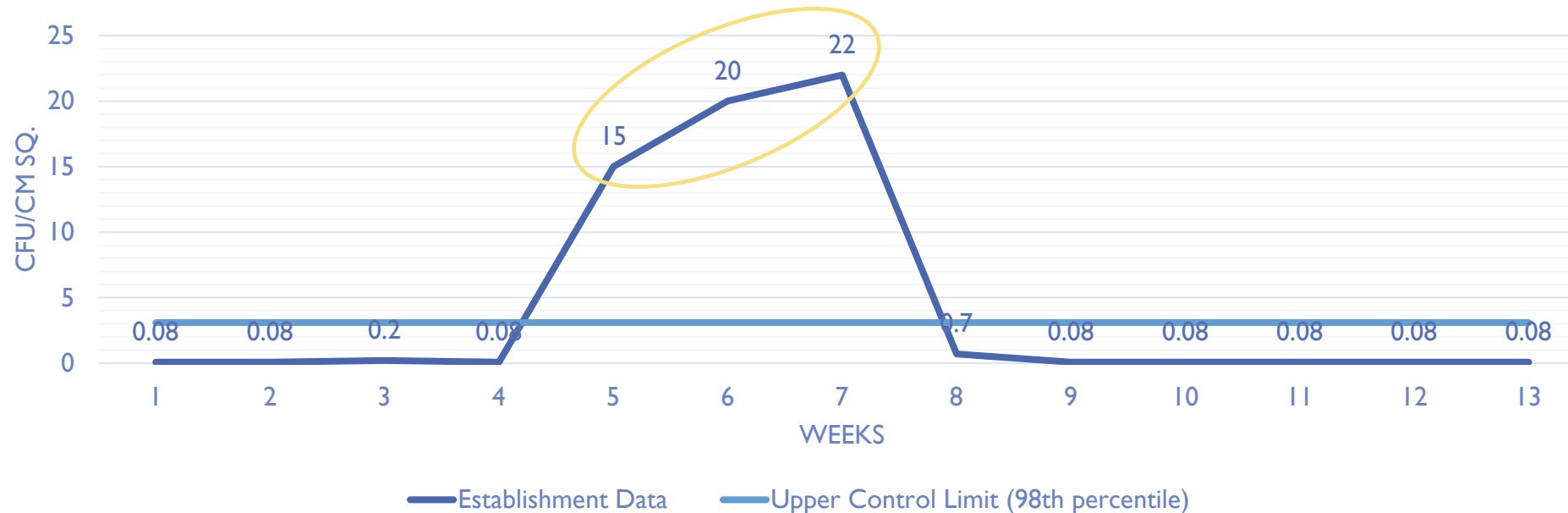
Generic *E. coli* test results



LOSS OF PROCESS CONTROL

SAMPLING RESULTS EXCEED THE ESTABLISHMENT'S NORMAL VARIATION OR UPPER CONTROL LIMIT BY A RELATIVELY LARGE AMOUNT SEVERAL TIMES IN QUICK SUCCESSION

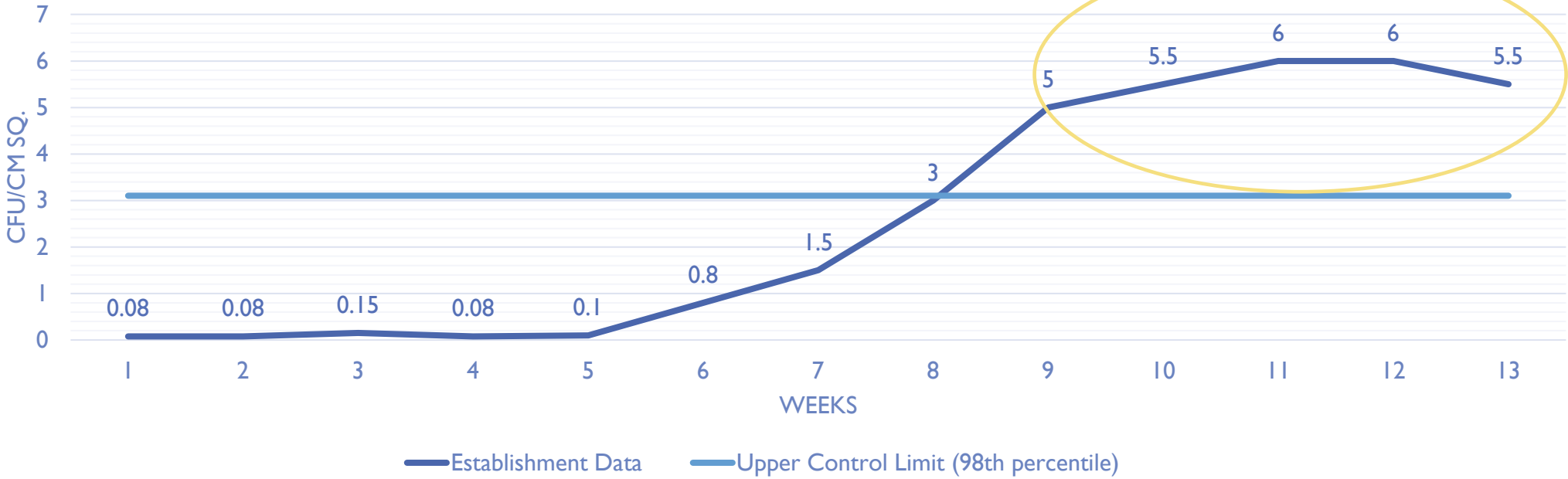
Generic *E. coli* test results



LOSS OF PROCESS CONTROL

SAMPLING RESULTS BEGIN TO REGULARLY EXCEED THE ESTABLISHMENT'S NORMAL VARIATION OR UPPER CONTROL LIMIT BY A RELATIVELY SMALL AMOUNT

Generic *E. coli* test results



A NONCOMPLIANCE OCCURS WHEN THE ESTABLISHMENT IS NOT MEETING THE PRESCRIBED REGULATORY REQUIREMENTS

Not having written procedures

Not collecting 13 samples

Not graphing or charting the results

Not keeping the results for 12 months





Bureau of Meat and Poultry Businesses

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION (DATCP)