

ERU ACTIVITY SUMMARY REPORT

INVESTIGATION NAME: 16051_BishopsPumpkinFarm_PettingZoo_EcoliHUS_110916		ASSIGNMENT DATE: 11/15/16
ERU LEAD: Brandon Adcock		
FIRM NAME: Bishop's Pumpkin Farm		
ADDRESS: 1415 Pumpkin Lane	CITY: Wheatland	ZIP CODE: 95692
FIRM CONTACT: Wayne Bishop	PHONE: 530-633-2568	OTHER CONTACT INFO: N/A
REPORTING PERSON/AGENCY: Jeff Higa / CDPH – DCDC – IDB		PHONE: 213-620-2856

ACTIVITY: PRODUCE INVESTIGATION PFR ENVIRONMENTAL RETAIL ENVIRONMENTAL
 TRACEBACK INVESTIGATION TAMPERING COMPLAINT SAMPLING
 TECHNICAL ASSISTANCE OTHER:

BACKGROUND:

On 11/9/16, the California Department of Public Health (CDPH), Division of Communicable Disease Control (DCDC), Infectious Diseases Branch (IDB) notified CDPH, Food and Drug Branch (FDB), Emergency Response Unit (ERU) of an *E. coli* O157 outbreak associated with visitors to Bishop's Pumpkin Farm in Wheatland, CA. Initially there were 16 cases from four counties whose illnesses were considered part of the outbreak. All of these case patients were infected with *E. coli* O157:H7 with indistinguishable pulsed-field gel electrophoresis (PFGE) or multi-loci variable number tandem repeat analysis (MLVA) patterns (*Xba*I/*Bln*I PFGE pattern combination EXHX01.6309/EXHA26.055 or MLVA pattern 11-7-11-4-4-7-8-7). Out of these cases, 13 (81%) reported exposure to Bishop's Pumpkin Farm. 12 of those 13 (92%) reported exposure to the petting zoo/animal display area. More information on the epidemiologic investigation can be found in the Epidemiologic Summary Report prepared by IDB.

Bishop's Pumpkin Farm is a seasonal operation generally open from September through October each year. The farm features, among other attractions, an area with livestock in display pens called "Weeland" where children and visitors could interact with farm animals through fences, a pumpkin patch where children and families can pick out pumpkins, and a water feature where children could use "gold panning" pans to find marbles in the gravel. Additionally, during the fall season, the ranch produced raw cider from apples they purchased from wholesale distributors.

As part of the investigation, a CDPH Public Health Veterinarian conducted an environmental assessment at the petting zoo on the farm property. ERU provided technical and material assistance for the assessment due to the possible association with unpasteurized apple cider and the recent history of unpasteurized apple cider outbreaks investigated by ERU.

SUMMARY OF ACTIVITY:

On 11/15/16, ERU assisted with the environmental assessment at Bishop's Pumpkin Farm. Throughout the assessment, the President of Bishop's Pumpkin Farm, Wayne Bishop, provided information for the team. Dr. Curtis Fritz, Public Health Veterinarian with CDPH, DCDC, IDB, led the onsite assessment and ERU provided sampling materials and staff to assist with the collection of samples. The sampling team was divided into two sub-teams; ERU Environmental Scientist, Brandon Adcock led team A and Dr. Fritz led Team B.

Team A collected 11 fecal samples from animal pens in the petting zoo area (also referred to as "Weeland") where the animals were housed during the season and the case patients would have been exposed during the time period of interest. Mr. Bishop stated that farm staff had cleaned the pens shortly after the animals were moved at the end of the season, however, the team observed feces in the pen areas. Sampling team A collected these samples under the guidance of ERU staff and according to standard ERU protocols.

Team B collected 13 fecal samples from the pasture area where the display animals were being housed at the time of sampling. This area was used as overflow vehicle parking during the season and housed the animals during the off season. Sampling team B collected these samples under the guidance of Dr. Fritz. They were collected using non-sterile gloves, which were placed around the sample, turned inside out (so the sample was inside) and the glove containing the sample was placed in a sterile bag.

The sampling teams recombined as one to collect seven water samples. Four of these samples were collected from an area where children can perform panning for marbles during the season. This water recirculated down a waterfall into a pool where the children panned for marbles and back into the pond without any treatment or filtering. Three of the seven water samples were collected from water troughs in the Weeland animal pens.

Name	Affiliation	Sampling Team
Dr. Curtis Fritz*	CDPH – DCDC – IDB	B
Rebecca Campagna	CDPH – DCDC – IDB	B
Robert Oldham	Placer County Public Health	B
April Holland	Placer County Public Health	B
Nicole Quick	Yuba County Public Health	B
Brandon Adcock	CDPH – FDB – ERU	A
Kim Tran	Placer County Public Health	A
Branden Hendrix	Yuba County Public Health	A
Clark Pickell	Yuba County Public Health	A

* = Onsite Assessment Lead

Table 1 - Team Members and Affiliations

In addition to the sampling and investigation in the animal and marble panning areas, Mr. Bishop gave the team an overview of the firm's apple juicing process (Figure 1).

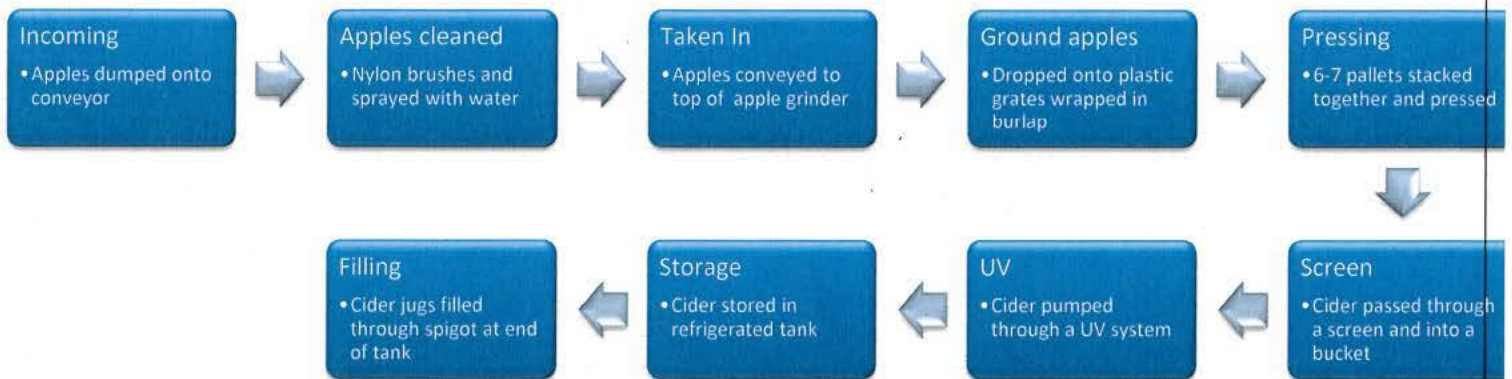


Figure 1 - Apple Process Flow Diagram

The firm utilized a ultraviolet light (UV) system to treat the cider between pressing and storage in a refrigerated bulk tank, but the ranch did not advertise nor consider the cider pasteurized. Since the ranch pressed and sold the cider only onsite, the operation was considered retail and under the primary jurisdiction of Yuba County Public Health.

Since there were case patients who indicated exposure to the unpasteurized cider products, and ERU has investigated recent *E. coli* cases associated with unpasteurized apple juice products, the team collected a sample of finished cider. The sample consisted of one gallon of juice from the last production run of the season. Mr. Bishop stated that they will generally make extra cider and freeze it for sale with Thanksgiving pies and that was the intention for this cider.

All of these samples were sealed with tamper evident seals, stored and transported in accordance with standard ERU processes and submitted to FDLB for *E. coli* O157 analysis on 11/16/16.

FINDINGS AND CONCLUSIONS:

In summary, the team collected a total of 24 fecal samples, 7 water samples, and 1 product sample (Attachment 2). Out of those samples, 13 of the feces and one of the water samples were positive for *E. coli* O157:H7 (Table 2, Attachment 1, Attachment 3).

These results indicate there were multiple animals at the time of sampling that were likely infected with *E. coli* O157:H7. All of the samples in which *E. coli* O157:H7 was detected, had PFGE patterns indistinguishable from the case patients' clinical samples in this outbreak (PFGE pattern EHX01.6309/EXHA26.0556).

IS#	Location	Description	<i>E. coli</i> O157:H7	PFGE	Team
710111516-001	Weeland - Pig Pen	Bedding and feces from pen that contained one sow and piglets	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-002	Weeland - Piglet pen	Feces from small barn inside pen	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-003	Weeland - Piglet Pen	Bedding and feces	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-004	Weeland - Sheep Pen	Feces from various locations In pen area	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-006	Weeland - Three Little Pigs Pen	Piglet feces from floor of pen	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-007	Weeland - Goat Pen	Feces from inside of barn in pen	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-008	Weeland - Goat Pen	Feces from in and around goat pen	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-010	Weeland - Llama Pen	Llama feces from floor of pen	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-011	Weeland - Baby goat pen	Goat feces from baby goat pen in public area	Detected	EXHX01.6309/ EXHA26.0556	A
710111516-101	Pasture	Fresh feces	Detected	EXHX01.6309/ EXHA26.0556	B
710111516-108	Pasture	Sheep feces	Detected	EXHX01.6309/ EXHA26.0556	B
710111516-109	Pasture	Sheep/Goat feces around smashed pumpkin	Detected	EXHX01.6309/ EXHA26.0556	B
710111516-110	Pasture	Sheep/Goat feces pellets	Detected	EXHX01.6309/ EXHA26.0556	B
710111516-115	Weeland - Piglet Pen	Water from drinking trough	Detected	EXHX01.6309/ EXHA26.0556	A & B

SUPPORTING DOCUMENTATION:

- Attachment 1: Sampling Results Summary
- Attachment 2: Map of Bishop's Pumpkin Farm and samples collected
- Attachment 3: Map of Positive Sample Locations

ERU ELECTRONIC FILE LOCATION:

J:\ERU\Investigations\Investigations 2016\16051_BishopsPumpkinFarm_PettingZoo_EcoliHUS_110916

ENFORCEMENT ACTIONS: NOV ISSUED EMBARGO VC&D REG LETTER REFERRAL


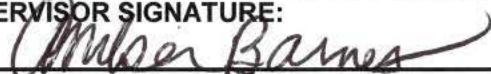
OTHER:

RECOMMENDATIONS: NAI MINOR VIOLATIONS / FIRM CORRECTING OTHER:

COMMENTS / FOLLOW-UP ACTION:

Guidance for the prevention of illnesses associated with petting zoo including CDC guidance was assembled by IDB. This information was presented to Mr. Bishop on by Yuba County Public Health officials on 3/15/17.

There is no follow up on the part of ERU indicated at this time.

ERU LEAD SIGNATURE: 	INV.# 710	REPORT DATE: 4/17/17
SUPERVISOR SIGNATURE: 		DATE REVIEWED: 4/17/17
SUPERVISOR DISPOSITION: NAI		

(8/28/08- ERU ACTIVITY SUMMARY FORM)

Table 2 – Positive Sample Results Summary