



Designing Assembly Modifications to Reduce Disease Transmission

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A Swine Health Ontario Project

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Agriculture and
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Canadian Stats

The Canadian pork sector generates \$24B annually for the Canadian economy.

1 ASF case in Canada would stop exports.

According to the October 2024 edition of Canadian Pork Marketing Report by Kevin Grier;

Canada exports approximately 6.6 million live hogs annually.

- 4.7 million weaners and feeders,
- 1.5 million market hogs
- 340,000 cull sows and boars



Setting the Stage

- The majority of the 340,000 Canadian cull animals pass through assembly yards for sorting before slaughter in the U.S. (approx. 4,250 truck loads)
- Most Eastern Canadian culls are assembled in Ontario.
- Ontario to U.S. weekly exports also include weaners and finishers, totalling approx. 50,000 hd.
- Manitoba also has two large assembly sites which operate in a similar function.
- **This cross-border transport increases the risk of disease movement between the two countries and cross contamination of Canadian facilities upon return of trailers following contact with U.S. packers.**

Project Focus

- Assess assembly biosecurity risk points and develop drawings that address these risks.
- The first phase of this project included site assessments focused on the **inbound, internal (campground) and outbound** aspects of the major Ontario and Western Canadian cull assembly.
- Three assembly sites were visited in Ontario and two assembly sites were visited in Manitoba.



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Assembly Assessment Key Points

General Operations and Site Access

- Single species focus and avoid alternative services
- Designated inbound and outbound traffic flow with a solid divider between flows
- Yard grade, drainage and driveway material to reduce mud and water accumulation
- Waste/manure management
- Reduce foot traffic cross-contamination risks through use of electronic paperwork and consideration of the location if a public bathroom is provided for drivers.
- "Clean" activities such as feed delivery located on the inbound side of assembly, "Contaminated" activities such as deadstock located on the outbound side of assembly.

Assembly Assessment Key Points

Inbound

- Inbound is a critically important point for assembly as this is the point where further contact back to Canadian farms is most likely.
 - Designated inbound chutes, physically separated from outbound
 - Multiple chutes depending on inbound volume to allow for C/D between loads**
 - Delivery by appointment with details on disease status
 - Roof extension
 - Slated walkways and back of truck area, attention to grade
 - Protocol to remove deadstock from trailers

Assembly Assessment Key Points

Campground

- Consider contaminated, clear separation from inbound.
- One-way gates between inbound and campground.
- Inclusion of slatted areas to the inbound area and the sorting area would facilitate effective cleaning and disinfection and construction must accommodate a skid steer or alternative.
- Staff with campground contact should not enter trailers (inbound or outbound) – no inbound trailers to reduce the risk of contaminating those trailers with diseases endemic to the campground and no outbound trailers to avoid bringing any potential new diseases into the campground.
- Drivers from both areas should not enter the campground.
- Rest pen for compromised animals.
- Alleyways should accommodate a slid steer.

Assembly Assessment Key Points

Outbound

- Area with the highest amount of contact with trucks returning from the U.S.
- Deadstock holding and pick-up should be located on the outbound side of the assembly with consideration of traffic flow to minimize cross-contamination from vehicles collecting deadstock.
- The workgroup recommends a requirement for high-volume wash and disinfection** (or alternate technology to C/D) of trailers returning from the U.S.



**PED and PDCoV PCR Results - Trailers Moved Known Infected Pigs Followed by Firehose Wash and Disinfection with Synergize

LEGEND

- 1 Nose deck and bottom area
- 2 Middle deck near swing gate
- 3 Main ramp and back door area
- 4 Lower ramp and gate to bottom deck
- ND = Not Detected

PEDV CT Values						
Date	PREWASH		CLEAN TRAILER SAMPLES			
	#1 PEDV	#2PEDV	#1 PEDV	#2 PEDV	#3 PEDV	#4 PEDV
19-Nov	30.84	27.82	ND	ND	ND	ND
12-Jan	ND	ND	ND	ND	ND	ND
13-Jan	31.54	28.96	ND	ND	ND	ND
15-Jan	27.32	28.92	ND	ND	ND	ND
21-Jan	26.58	27.31	ND	ND	37.37	36.53
29-Jan	31.97	30.09	32.83	ND	ND	ND

PDCoV CT Values						
Date	PREWASH		CLEAN TRAILER SAMPLES			
	#1 PDCov	#2PDCoV	#1 PDCoV	#2 PDCoV	#3 PDCoV	# 4PDCoV
19-Nov	33.89	31.42	ND	ND	ND	ND
12-Jan	38.55	37.49	ND	ND	ND	ND
13-Jan	28.96	36.15	ND	ND	ND	ND
15-Jan	28.92	26.96	ND	ND	ND	ND
21-Jan	27.31	29.18	ND	ND	ND	39.36
29-Jan	30.09	31.81	34.00	ND	ND	ND

Next Steps

- Engineered drawings highlighting key points
- Application to on farm biosecurity
- Further industry consultation
- Communications - Better Pork article
- Final report





Thank You



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