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# SPS case study: The impacts of live animal trade bans on the North American cattle and beef markets

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# Motivation

PRESS RELEASE

## Secretary Rollins Takes Decisive Action and Shuts Down U.S. Southern Border Ports to Livestock Trade due to further Northward Spread of New World Screwworm in Mexico

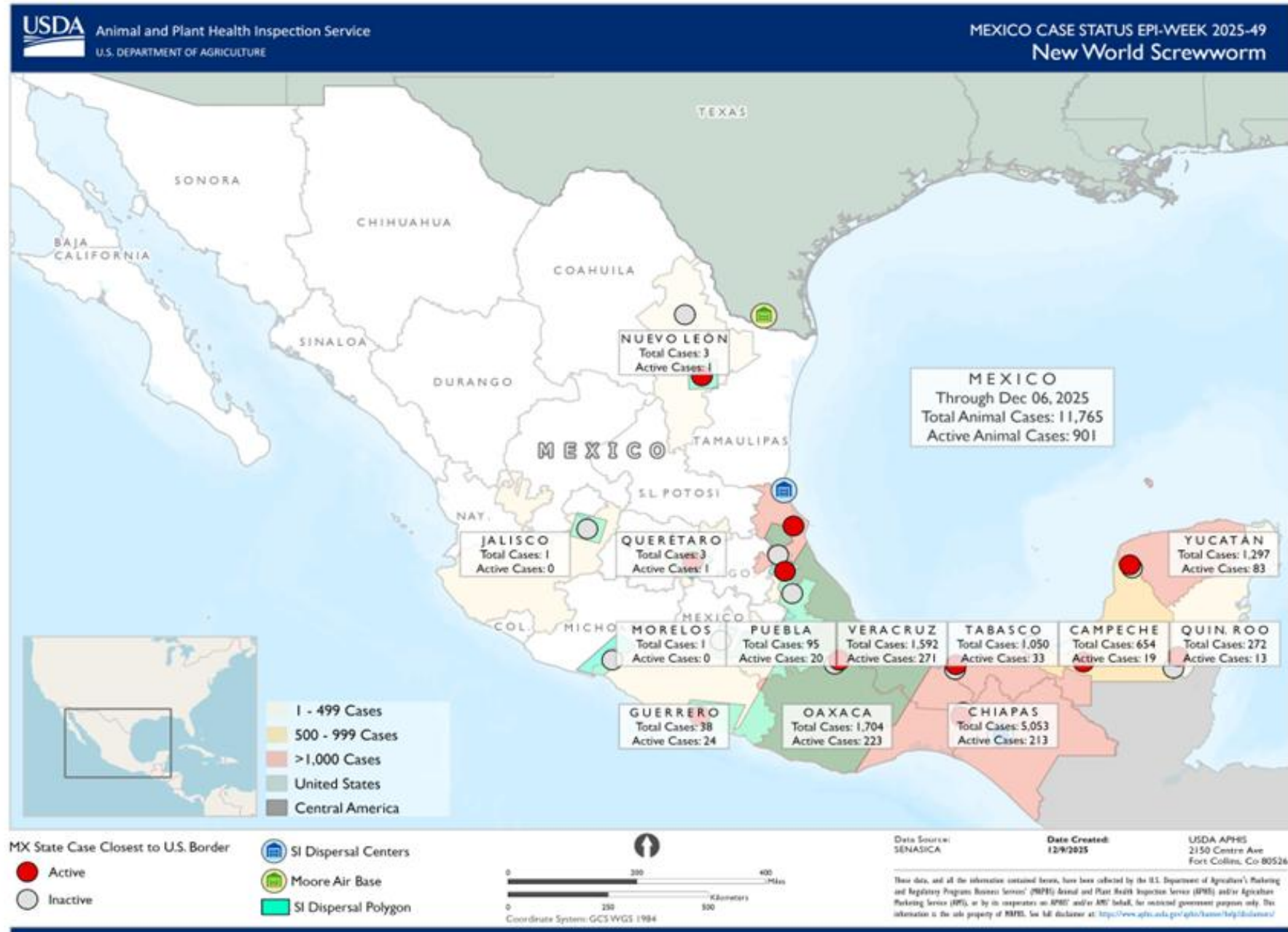
PUBLISHED: July 9, 2025

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Source: <https://www.usda.gov/about-usda/news/press-releases/2025/07/09/secretary-rollins-takes-decisive-action-and-shuts-down-us-southern-border-ports-livestock-trade-due>

# NWS outbreaks in Mexico



Source: <https://www.aphis.usda.gov/livestock-poultry-disease/stop-screwworm/current-status#:~:text=Since%20July%2C%20Mexico%20has%20confirmed,Quer%C3%A9taro>

# Research objective

To examine the potential impacts of the U.S. border reopening to feeder cattle trade from Mexico following the reemergence of the New world screwworm (NWS).

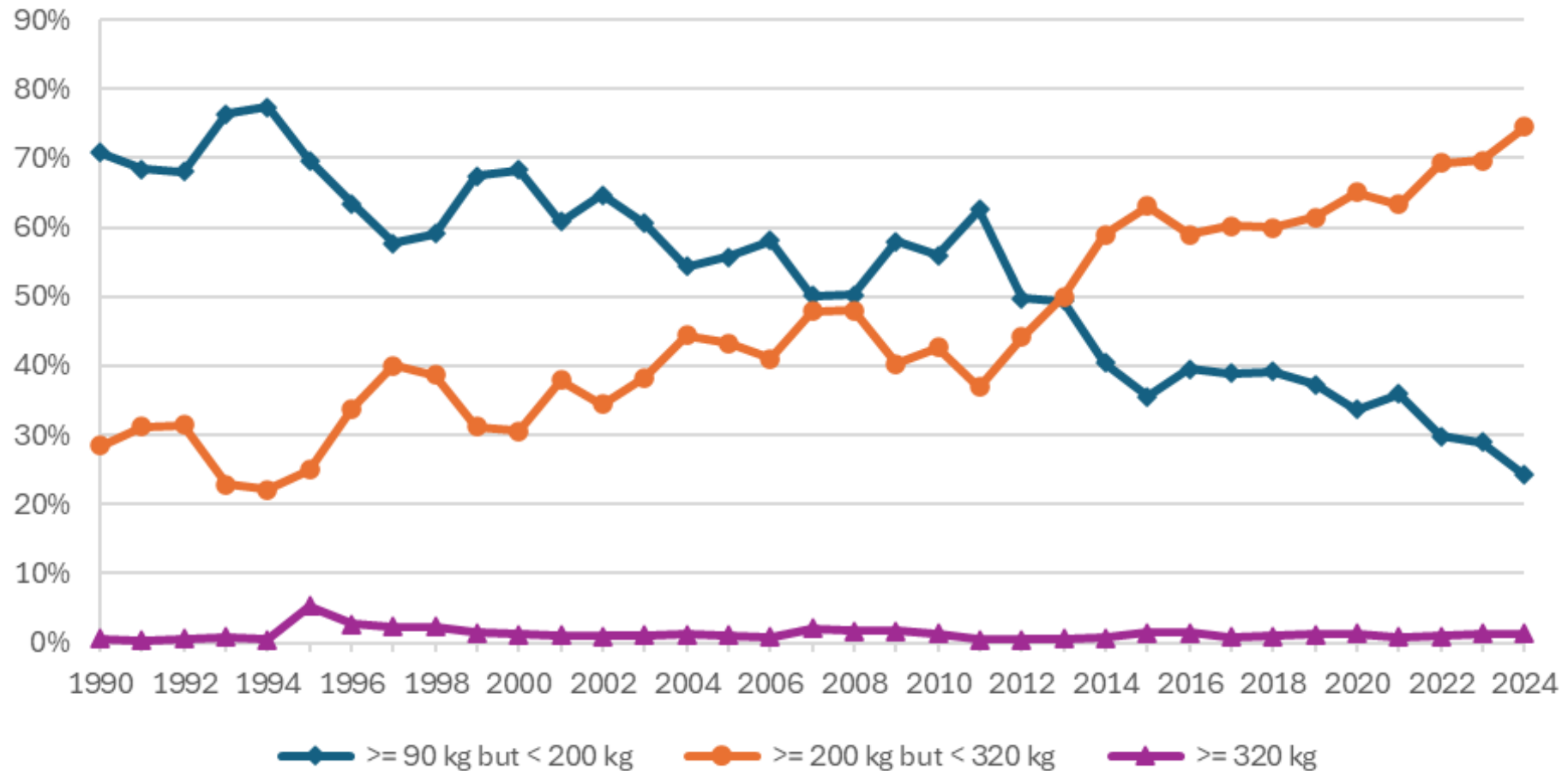


# Background – New World screwworm (NWS)

- NWS was previously eradicated from the U.S. in the mid-1960s via the sterile insect technique (SIT) (APHIS, 2024; Skoda et al., 2018; Vargas-Terán et al., 2021)
- It's a parasitic infestation caused by the fly *Cochliomyia hominivorax* that can lead to severe tissue damage, a secondary infection, and in some cases death (WOAH, n.d.; Alexander, 2006)
- With early detection prognosis is good and treatment typically involves applying an anti-parasitic and wound care. However, mitigation can be costly as it may involve controlling the movement of animals, on-farm quarantine and withdrawal periods for slaughter animals which adds both holding and feeding costs (FDA, 2025; WOAH, n.d.).

# Why does it matter?

Share of U.S. cattle imports by weight from Mexico



Source: Trade Data Monitor, 2025

# FAPRI model and data sources

- Partial equilibrium (PE) model of U.S. and international agriculture
- Used to produce 10-year baseline projections
- Scenarios are based off the August 2025 baseline projections
- Some data sources:
  - Macroeconomic data
  - United States Department of Agriculture (USDA)
  - International



# Baseline assumption – no live imports from Mexico

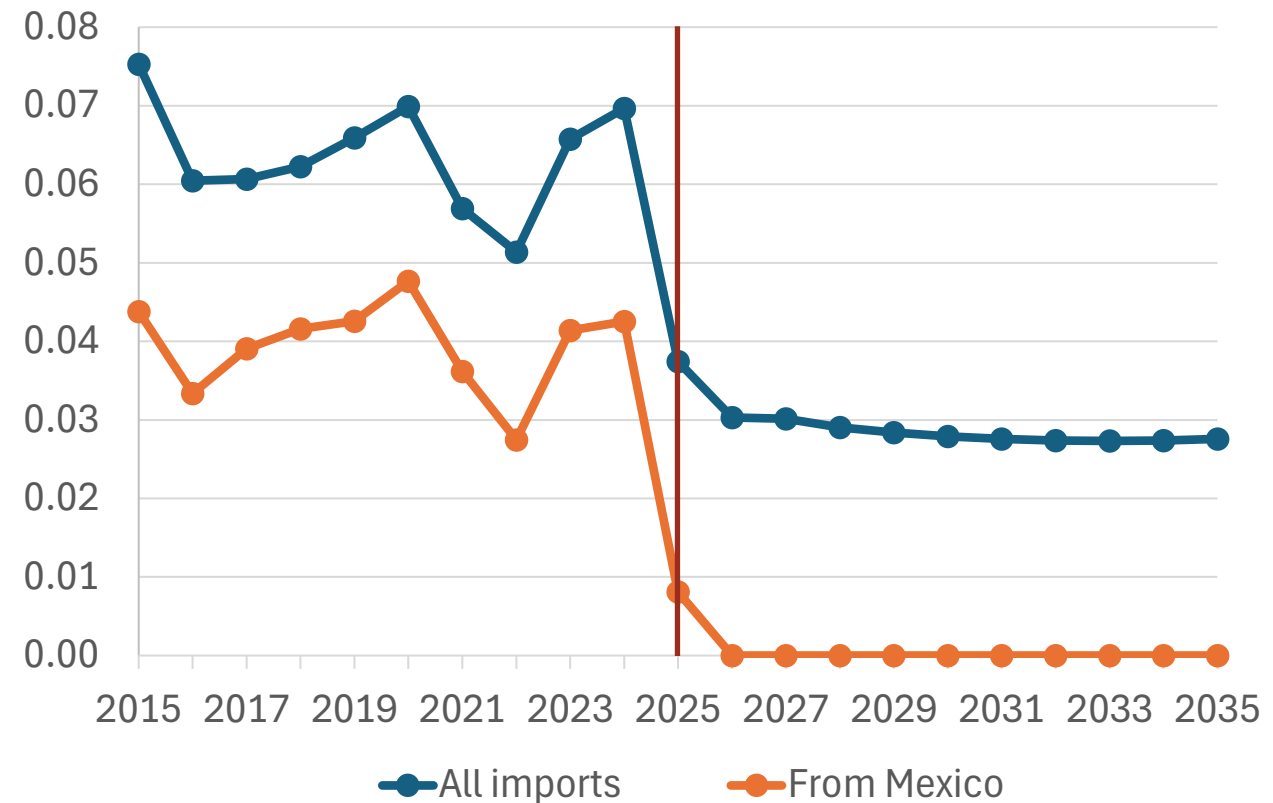
## *Percentage of slaughter?*

- About 4% of total slaughter or around 5% of steer & heifer slaughter

## *Implications?*

- U.S.: fewer animals => pressure live animal prices higher, encourage beef cow herd rebuilding
- Mexico: more animals => more production
- Trade shifts, moderating price impacts

Ratio: live imports / total slaughter



Source: calculated from historical USDA data and FAPRI-MU preliminary outlook, Aug., 2025.

# Scenario implementation

Permanent shock

assume the border reopens starting in H2 2026

U.S. livestock model adjustment

offsetting adjustment to the U.S. live cattle import equation

Mexican livestock model adjustment

offsetting adjustments to Mexican beef production potential and beef production equations

removal of the price wedge adjustment to the baseline

# Results – Mexico and world

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<b>Mexico beef supply and disposition</b>	(Thousand metric tons)									
Production	-81	-262	-372	-373	-359	-355	-359	-369	-387	-412
Domestic use	-70	-122	-82	-65	-55	-45	-32	-16	1	18
Net trade	-10	-140	-290	-307	-303	-310	-327	-353	-388	-431
	(2016 =100)									
Mexico beef indicator price	10.14	18.23	12.55	10.40	9.08	7.65	5.59	2.91	-0.16	-3.37
World beef indicator price	0.09	0.70	1.32	1.50	1.81	2.16	2.38	2.52	2.61	2.72
Mexico pork price	0.00	-0.07	-0.13	0.04	0.19	0.26	0.23	0.15	0.07	0.01
World pork indicator price	0.00	-0.06	-0.10	0.03	0.15	0.20	0.17	0.11	0.05	0.01
Mexico chicken indicator price	0.16	0.24	0.17	0.18	0.23	0.26	0.24	0.21	0.17	0.15
World chicken indicator price	0.15	0.22	0.15	0.16	0.20	0.22	0.20	0.17	0.14	0.12

# Results – U.S.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<b>U.S. cattle supply and disposition</b>	(Million head)									
Beef cows (Jan. 1)	0.00	-0.11	-0.42	-0.80	-1.13	-1.35	-1.46	-1.51	-1.52	-1.51
Calf crop	-0.03	-0.20	-0.50	-0.83	-1.09	-1.25	-1.33	-1.36	-1.36	-1.35
Beef cow slaughter	0.08	0.22	0.25	0.17	0.06	-0.04	-0.11	-0.14	-0.15	-0.15
Steer and heifer slaughter	0.33	0.93	1.19	1.12	0.96	0.82	0.72	0.67	0.65	0.66
Cattle imports	0.59	1.21	1.36	1.42	1.45	1.49	1.52	1.55	1.58	1.61
Cattle and calves (Dec. 31)	0.14	0.01	-0.56	-1.22	-1.79	-2.22	-2.53	-2.74	-2.89	-3.00
Cattle on feed (Jan. 1)	0.00	0.30	0.59	0.59	0.52	0.44	0.37	0.33	0.32	0.31
<b>U.S. beef supply and disposition</b>	(Thousand metric tons)									
Imports	-57	-177	-261	-280	-266	-240	-216	-199	-188	-182
Production	147	409	525	472	376	290	231	203	194	196
Domestic use	132	322	361	306	236	174	132	109	96	86
Exports	-47	-96	-99	-112	-122	-123	-116	-105	-89	-71
Ending stocks	4	10	12	9	6	4	3	2	2	2
<b>Livestock sector prices</b>	(U.S. dollars per 100kg)									
U.S. total all grades, 5-area direct steers	-15.01	-37.72	-43.47	-37.80	-29.89	-22.85	-18.04	-15.48	-14.18	-13.33
600-650 lbs, Oklahoma City, feeder steers	-36.00	-85.27	-93.90	-78.45	-58.68	-41.39	-30.84	-26.69	-25.44	-24.97
U.S. boxed beef, Choice, 600-900 lbs	-22.08	-54.83	-62.20	-53.47	-41.75	-31.34	-24.24	-20.40	-18.32	-16.80
<b>Feed prices</b>	(U.S. dollars per metric ton)									
Corn price, No. 2 yellow, U.S. Gulf	0.00	0.45	0.03	-0.10	-0.21	-0.26	-0.30	-0.34	-0.34	-0.35
Soymeal price, 48%, Decatur	0.00	0.95	0.79	0.30	0.09	0.07	0.09	0.09	0.10	0.14
<b>Other U.S. indicators</b>	(1984=100)									
Consumer price index, beef, food at home	-3.60	-12.84	-20.33	-20.89	-17.70	-13.97	-10.91	-9.00	-8.01	N/A
	(U.S. dollars per cow)									
Cow-calf, net returns	-91.95	-166.31	-173.79	-142.91	-106.02	-75.85	-58.08	-50.70	-48.17	-47.77

# Conclusion

- Given the magnitude of the price changes in Mexico and the U.S. relative to the of the world price indicator, this implies a reallocation of cattle slaughter and beef production within the North American market and not necessarily a notable change to global cattle and beef markets.

# Limitations

The model does not include a full supply and disposition for cattle (or hogs).

An improvement would be to add live cattle (and hog equations) for both supply and use in the context of the North American market, moving forward.

The scenario results reported here only use the deterministic baseline.

It may be useful to add the international livestock markets, especially the North American markets to the stochastic baseline.

There is uncertainty about the exact trade responses given that beef has some heterogeneity.

Should the trade elasticities cause U.S. and world prices to move more alike or not?

The final effects are not shown here.

The results shown are the 10-year projections, but they are still changing in the outer years.

# Thanks!

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Thank you