

To determine the effect of the proposed rule on in-establishment worker safety, FSIS compared in-establishment injury rates between HIMP and traditional establishments¹ from 2002 to 2010. The preliminary analysis has shown that HIMP establishments had lower mean injury rates as compared to traditional establishments, Table XX.

The data used for the analysis was gathered from the Department of Labor (DOL), Occupational Safety and Health Administration (OSHA) from the Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses. FSIS subset the OSHA data for Hog slaughter plants comparing this data to the FSIS Public Health Information System data. The analysis excluded the 27 lowest volume plants², leaving 27 plants (5 HIMP and 24 Traditional). The results showed HIMP plants had a lower mean number of injuries using OSHA injury rates³ as compared to traditional plants. The independence of means test was used to verify the statistical significance of the analysis, and the

¹The analyses included the 5 HIMP establishments and 24 randomly selected large and small high volume establishments. Every establishment had an annual production value of at least 100,000 heads.

²Volume data was acquired for 2011 from the FSIS Public health information system and matched to the establishment level data to filter by slaughter volume. Plants with the lowest volumes at less than 100,000 head per year were excluded.

³The OSHA data has three types of indices for an Annual basis, Total Case Rate (TCR), Days Away Transferred Restricted (DART), and Days Away From Work (DAFW). Please see the OSHA website for more information and for the calculation of the indices listed above.

<https://www.osha.gov/oshstats/work.html>

equality of variances in the Levene's test as well as the t-test were used to evaluate the HIMP and Traditional injury rate means, please see tables below.

OSHA data does have some limitations, because establishments voluntarily submit injury data on an annual basis, and the survey is only collected from participating States. Establishment data is not available for Alaska; Oregon; Puerto Rico; South Carolina; Washington; and Wyoming. Other limitations include underreporting of injuries, for instance non-inclusion of longer-term injuries such as hearing loss. For each data collection cycle, OSHA only collects data from a small portion of all private sector establishments in the United States (80,000 out of 7.5 million total establishments). The data may not be representative of all businesses. For a larger list of limitations and studies completed pertaining to the OSHA data limitations, please see the Bureau of Labor Statistics website, <http://www.bls.gov/iif/oshfaq1.htm#q01>.

Table XX : Annual Mean Injury Rates by Establishment Type

Type of Establishment	Total Case Rate of Injuries*(TCR)	Days Away Transferred and Restricted* (DATR)	Days Away From Work* (DAW)
HIMP	10.46	6.61	1.00
Traditional	16.38	10.16	2.61

* All values are calculated means of incidence rates per 100 employees by establishment.

Statistical Means and Tests for Significance

The tables below show the statistical output of the analysis for the Levene's test as well as the various OSHA case rate indices used to compare the injury rates in traditional plants to HIMP plants. Overall the tests show statistical significance and lower case rates in HIMP plants.

		Observations / Years	Mean	Std. Deviation	Std. Error Mean
2012 Count of Swine Slaughtered	HIMP (5 plants)	24	3,165,410	1,381,477	281,993
	Traditional (24 plants)	119	1,926,069	2,290,391	209,960
Total Case Rate	HIMP (5 plants)	24	10.46	5.62	1.15
	Traditional (24 plants)	119	16.38	9.15	0.84
Days Away Transferred or Restricted	HIMP (5 plants)	24	6.61	3.77	0.77
	Traditional	119	10.16	7.23	0.66
Days Away From Work	HIMP (5 plants)	24	1.00	0.74	0.15
	Traditional (24 plants)	119	2.61	2.17	0.20

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
2012 Count of Swine Slaughtered	Equal variances assumed	9.749	.002	2.554	141	.012	1,239,341.49
	Equal variances not assumed			3.525	52.429	.001	1,239,341.49
Total Case Rate	Equal variances assumed	5.503	.020	-3.050	141	.003	-5.92
	Equal variances not assumed			-4.165	51.308	.000	-5.92
Days Away Transferred Restricted	Equal variances assumed	6.980	.009	-2.340	141	.021	-3.55
	Equal variances not assumed			-3.497	62.936	.001	-3.55
Days Away From Work	Equal variances assumed	11.593	.001	-3.588	141	.000	-1.62
	Equal variances not assumed			-6.450	108.261	.000	-1.62

From: [Maculloch, Bryan - FSIS](#)
To: [Pugliese, Andrew - FSIS](#)
Subject: FW: Question
Date: Tuesday, February 27, 2018 1:58:13 PM
Attachments: [OSHA Hogs.msg](#)

From: Furey, Todd M. - FSIS
Sent: Thursday, March 24, 2016 4:25 PM
To: Catlin, Michelle - FSIS <Michelle.Catlin@fsis.usda.gov>
Cc: Maculloch, Bryan - FSIS <Bryan.Maculloch@fsis.usda.gov>; Anderson, Don - FSIS <Don.Anderson@fsis.usda.gov>
Subject: RE: Question

Yes, Bryan, Don Anderson and I worked on this project. We used OSHA data and linked it to PHIS.

Bottom line –

“the HIMP plants have statistically-low OSHA case rates than either of the comparison sets of Traditional plants.”

The complete details are attached.

Todd

From: Catlin, Michelle - FSIS
Sent: Thursday, March 24, 2016 4:07 PM
To: Furey, Todd M. - FSIS
Subject: Question

Was it someone on your staff who looked at injury data in hog himp vs non-himp? If so, what data did they use? (In phil's office on call with hill staff - just in case it comes up phil asked about it)

Sent from my Android phone using Symantec TouchDown (www.symantec.com)

From: [Maculloch, Bryan - FSIS](#)
To: [Pugliese, Andrew - FSIS](#)
Subject: FW: OSHA
Date: Thursday, April 7, 2016 8:27:49 AM
Attachments: [OSHA.docx](#)

Hi Andrew,

(b) (5) [Redacted]

Thanks!

Bryan

From: Maculloch, Bryan - FSIS
Sent: Thursday, January 14, 2016 4:42 PM
To: Furey, Todd M. - FSIS; Pugliese, Andrew - FSIS; Ajmera, Richa - FSIS
Subject: RE: OSHA

Here you go Todd. (b) (5) [Redacted]

Thanks,

Bryan

From: Furey, Todd M. - FSIS
Sent: Thursday, January 14, 2016 4:13 PM
To: Pugliese, Andrew - FSIS; Ajmera, Richa - FSIS
Cc: Maculloch, Bryan - FSIS
Subject: Hogs

(b) (5) [Redacted]

[Redacted] Please extract it and send a copy to me.

Thank you, Todd

Sent from my Android phone using Symantec TouchDown (www.symantec.com)

From: [Maculloch, Bryan - FSIS](#)
To: [Pugliese, Andrew - FSIS](#)
Subject: FW: OSHA Hogs
Date: Tuesday, February 27, 2018 2:08:19 PM

Hi Andrew, I found this as well.

Bryan

From: Anderson, Don - FSIS
Sent: Wednesday, December 2, 2015 10:13 AM
To: Maculloch, Bryan - FSIS <Bryan.Maculloch@fsis.usda.gov>; Pugliese, Andrew - FSIS <Andrew.Pugliese@fsis.usda.gov>; Furey, Todd M. - FSIS <Todd.Furey2@fsis.usda.gov>
Subject: RE: OSHA Hogs

OK, let me know if you need any more help

Don Anderson 202-821-9396

From: Maculloch, Bryan - FSIS
Sent: Wednesday, December 02, 2015 9:14 AM
To: Anderson, Don - FSIS; Pugliese, Andrew - FSIS; Furey, Todd M. - FSIS
Subject: RE: OSHA Hogs

Thanks for your help on this. (b) (5)

Thanks,

Bryan

From: Anderson, Don - FSIS
Sent: Wednesday, December 02, 2015 9:10 AM
To: Maculloch, Bryan - FSIS; Pugliese, Andrew - FSIS; Furey, Todd M. - FSIS
Subject: RE: OSHA Hogs

I have been out of town for a week or so. I don't remember if I heard back from anyone on this work. Can you give me a status report of where we are since I sent this and whether/what more work we have to do? Thanks, don

Don Anderson 202-821-9396

From: Anderson, Don - FSIS

Sent: Monday, November 16, 2015 11:11 AM

To: Maculloch, Bryan - FSIS; Pugliese, Andrew - FSIS; Furey, Todd M. - FSIS

Subject: OSHA Hogs

This document compares the OSHA case rates in the 5 HIMP plants to TWO different "comparison sets" of plants.

On page 1, the comparison group is 24 Traditional Plants that slaughter at least 100,000 Swine.

(For these comparisons I am using Andrew's 2012 slaughter data because it is the closest in time to the OSHA data but the first complete year of PHIS data).

The mean slaughter volume in HIMP is about 3.1 million/year; traditional 1.9 Million/year

The SECOND page narrows the number of traditional plants even more, by using a 1 million head threshold.

Mean HIMP is of course still 3.1 million; the Mean in the 10 Traditional plants is 4.2 million.

Either way you look at it, and by any of the 3 OSHA measures, the HIMP plants have statistically-low OSHA case rates than either of the comparison sets of Traditional plants.

I am also attaching a spreadsheet with just the HIMP and 2 comparison plant sets. Column F 'Comparison Group' has a filter on it.

Select 1 and 100,000 to see HIMP plus Traditional plants over 100,000 (including those over 1 million)

Select 1 and 1,000,000 to see HIMP plus Traditional plants over 1 million.

Schedule a meeting sometime if you want. What we probably should be thinking about is what other differences between HIMP and Traditional plants- besides slaughter volume- can and should we be trying to control for- data permitting.

<< File: osha data modified comparison plants 2012 slaughter.xlsx >>

<< File: One Hundred Thousand and One Million Hogs.docx >>

Don Anderson
Management Control and Audit Division
Office of Investigation, Enforcement & Audit

Food Safety and Inspection Service- USDA
202-821-9396

From: [Maculloch, Bryan - FSIS](#)
To: [Pugliese, Andrew - FSIS](#)
Subject: FW: OSHA Hogs
Date: Tuesday, February 27, 2018 2:08:55 PM
Attachments: [One Hundred Thousand and One Million Hogs.docx](#)
[osha data modified comparison plants 2012 slaughter.xlsx](#)
[swine osha match2002.xls](#)

From: Furey, Todd M. - FSIS
Sent: Wednesday, December 30, 2015 10:24 AM
To: Maculloch, Bryan - FSIS <Bryan.Maculloch@fsis.usda.gov>
Subject: FW: OSHA Hogs

From: Maculloch, Bryan - FSIS
Sent: Wednesday, December 30, 2015 10:11 AM
To: Furey, Todd M. - FSIS
Subject: FW: OSHA Hogs

Hi Todd,

Here's how Don calculated the average rates, and the data he used. The data is at the bottom of the email below.

Bryan

From: Anderson, Don - FSIS
Sent: Monday, November 16, 2015 11:11 AM
To: Maculloch, Bryan - FSIS; Pugliese, Andrew - FSIS; Furey, Todd M. - FSIS
Subject: OSHA Hogs

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Don Anderson
Management Control and Audit Division
Office of Investigation, Enforcement & Audit

Food Safety and Inspection Service- USDA
202-821-9396

From: [Maculloch, Bryan - FSIS](#)
To: [Pugliese, Andrew - FSIS](#)
Subject: FW: swine slaughter volumes
Date: Tuesday, February 27, 2018 2:09:54 PM

From: Anderson, Don - FSIS
Sent: Friday, November 13, 2015 2:38 PM
To: Maculloch, Bryan - FSIS <Bryan.Maculloch@fsis.usda.gov>; Pugliese, Andrew - FSIS <Andrew.Pugliese@fsis.usda.gov>; Furey, Todd M. - FSIS <Todd.Furey2@fsis.usda.gov>
Subject: swine slaughter volumes

Regarding selecting a subset of “traditional” plants to better compare with HIMP plants.

Remember, there are now 56 plants in the “osha” data set- 5 HIMP and 51 Traditional

Using the 2012 slaughter data Bryan forwarded me, note that the mean annual slaughter volume is about 1.2 million head, but with a big SD

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
2012SwineHead	56	12	7,901,152	1,202,262.84	2,014,099.205
Valid N (listwise)	56				

In the figure below, I have EXCLUDED 27 plants that slaughtered fewer than 100,000 head in 2012 (all excluded plants are traditional, not HIMP).

Thus, the 29 plants below (5 HIMP and 24 Traditional) have slaughter volumes equal to or higher than 100,000 head.

You can see the HIMP plants in Red, and the 24 traditional plants in Blue.

I think we could easily make a case for excluding the 27 lowest-volume plants that I already have.


(b) (5) [Redacted]

[Redacted]

[Redacted]

[Redacted]

(b) (5)

The text "(b) (5)" is located at the top left of the page. To its right and below it are three thick black horizontal bars that redact the majority of the page's content. The first bar is the longest, extending across most of the page width. The second bar is slightly shorter, and the third bar is the shortest, positioned further down.

Don Anderson
Management Control and Audit Division
Office of Investigation, Enforcement & Audit

Food Safety and Inspection Service- USDA
202-821-9396

From: [Anderson, Don - FSIS](#)
To: [Maculloch, Bryan - FSIS](#); [Pugliese, Andrew - FSIS](#); [Furey, Todd M. - FSIS](#)
Subject: OSHA Hogs
Date: Monday, November 16, 2015 11:11:01 AM
Attachments: [One Hundred Thousand and One Million Hogs.docx](#)
[osha data modified comparison plants 2012 slaughter.xlsx](#)

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Don Anderson
Management Control and Audit Division
Office of Investigation, Enforcement & Audit

Food Safety and Inspection Service- USDA
202-821-9396

Group Statistics Establishments Over 100,000 Head

		Obs/Yrs	Mean	Std. Deviation	Std. Error Mean
2012SwineHead	HIMP (5 plants)	24	3,165,410	1,381,477	281,993
	Traditional (24 plants)	119	1,926,069	2,290,391	209,960
TotalCaseRate	HIMP (5 plants)	24	10.46	5.62	1.15
	Traditional (24 plants)	119	16.38	9.15	0.84
DaysAwayTransferredRestricted	HIMP (5 plants)	24	6.61	3.77	0.77
	Traditional	119	10.16	7.23	0.66
DaysAwayFromWork	HIMP (5 plants)	24	1.00	0.74	0.15
	Traditional (24 plants)	119	2.61	2.17	0.20

Independent Samples Test Establishments Over 100,000 Head

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
2012SwineHead	Equal variances assumed	9.749	.002	2.554	141	.012	1,239,341.49
	Equal variances not assumed			3.525	52.429	.001	1,239,341.49
TotalCaseRate	Equal variances assumed	5.503	.020	-3.050	141	.003	-5.92
	Equal variances not assumed			-4.165	51.308	.000	-5.92
DaysAwayTransferredRestricted	Equal variances assumed	6.980	.009	-2.340	141	.021	-3.55
	Equal variances not assumed			-3.497	62.936	.001	-3.55
DaysAwayFromWork	Equal variances assumed	11.593	.001	-3.588	141	.000	-1.62
	Equal variances not assumed			-6.450	108.261	.000	-1.62

Group Statistics Establishments Over 1 Million Head

		Obs/Yrs	Mean	Std. Deviation	Std. Error Mean
2012SwineHead	HIMP (5 plants)	24	3,165,410	1,381,477	281,993
	Traditional (10 plants)	49	4,227,168	1,911,402	273,057
TotalCaseRate	HIMP (5 plants)	24	10.46	5.62	1.15
	Traditional (10 plants)	49	18.09	11.37	1.62
DaysAwayTransferredRestricted	HIMP (5 plants)	24	6.61	3.77	0.77
	Traditional	49	11.35	8.72	1.25
DaysAwayFromWork	HIMP (5 plants)	24	1.00	0.74	0.15
	Traditional (10 plants)	49	1.77	1.35	0.19

Independent Samples Test Establishments Over 1 Million Head

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
2012SwineHead	Equal variances assumed	1.217	.274	-2.425	71	.018	-1,061,757.28
	Equal variances not assumed			-2.705	60.757	.009	-1,061,757.28
TotalCaseRate	Equal variances assumed	20.992	.000	-3.099	71	.003	-7.63
	Equal variances not assumed			-3.837	70.974	.000	-7.63
DaysAwayTransferredRestricted	Equal variances assumed	14.492	.000	-2.539	71	.013	-4.74
	Equal variances not assumed			-3.233	70.277	.002	-4.74
DaysAwayFromWork	Equal variances assumed	17.242	.000	-2.623	71	.011	-0.77
	Equal variances not assumed			-3.162	69.884	.002	-0.77

Billing Code 3410-DM-P

DEPARTMENT OF AGRICULTURE

Food Safety and Inspection Service

9 CFR Parts 301, 309, and 310

[Docket No. FSIS-2016-0017]

RIN 0583-AD62

Modernization of Swine Slaughter Inspection

AGENCY: Food Safety and Inspection Service, USDA.

ACTION: Proposed Rule.

D. Overview of the Proposed Rule's NSIS

Eight of the proposed rule's provisions apply to only those establishments that voluntarily participate in the NSIS. Meeting these provisions will likely increase an establishment's labor and training costs. Additionally, only market hogs are eligible to participate in the NSIS. Due to these economic constraints discussed above, we expect that only large and small high volume establishments that exclusively slaughter market hogs would voluntarily participate in the NSIS. In 2016 there were 40 high volume establishments that exclusively slaughter market hogs, 27

large¹ (5 HIMP + 22 non-HIMP)² and 13 small establishments, Table 4. These establishments account for 92 percent of total swine slaughter, Table 4. Given their large share of the market and the ability to slaughter a sufficient amount of market hogs to justify the likely costs associated with NSIS, these establishments are expected to voluntarily implement the proposed NSIS. Therefore, this analysis calculates the costs and benefits associated with the voluntary provisions for these 40 market hog establishments. However, because the 5 HIMP establishments are already practicing the proposed NSIS methods, they are not expected to incur any additional new costs nor contribute to any increase in quantified benefits associated with adopting the NSIS.

¹ HACCP size: Very Small Establishment = Less than 10 employees or less than \$2.5 million in annual sales; Small Establishment = 10-499 employees; Large Establishment = 500 or more employees.

² In 2016 there was 1 large establishment that did not exclusively slaughter market hogs.

Brook, Mark - FSIS

From: Pugliese, Andrew - FSIS
Sent: Thursday, July 27, 2017 2:02 PM
To: Hammar, Melissa - FSIS
Subject: RE: Swine modernization - FSIS Staffing

Thank you for keeping me in the loop. This doesn't change anything on my side.

From: Hammar, Melissa - FSIS
Sent: Thursday, July 27, 2017 1:56 PM
To: Pugliese, Andrew - FSIS
Subject: FW: Swine modernization - FSIS Staffing

FYI. (b) (5) [Redacted]

From: Wagner, Roberta - FSIS
Sent: Wednesday, July 26, 2017 5:04 PM
To: Hammar, Melissa - FSIS
Cc: Edelstein, Rachel - FSIS
Subject: Re: Swine modernization - FSIS Staffing

I think that is fine for proposal -

Sent from my iPhone

On Jul 26, 2017, at 2:37 PM, Hammar, Melissa - FSIS <Melissa.Hammar@fsis.usda.gov> wrote:

(b) (5) [Redacted]

[Redacted]

(b) (5)

From: Sidrak, Hany - FSIS
Sent: Wednesday, July 26, 2017 1:25 PM
To: Wagner, Roberta - FSIS; Edelstein, Rachel - FSIS; Michael, Matthew - FSIS; Hammar, Melissa - FSIS
Cc: Smith, William C. - FSIS; Kiecker, Paul - FSIS; Gilmore, Keith - FSIS
Subject: FW: Swine modernization - FSIS Staffing

(b) (5)

Happy to further discuss. Thank you. Hany

From: Hammar, Melissa - FSIS
Sent: Tuesday, July 25, 2017 10:58 AM
To: Sidrak, Hany - FSIS
Cc: Edelstein, Rachel - FSIS; Wagner, Roberta - FSIS; Michael, Matthew - FSIS
Subject: RE: Swine modernization: 1-3 online inspectors

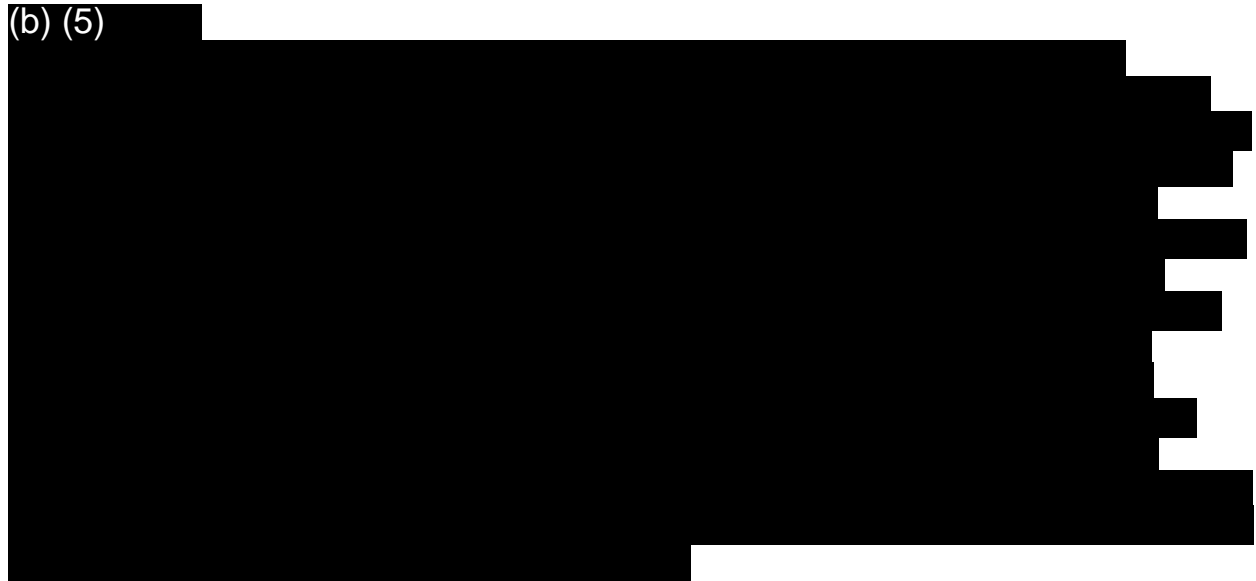
(b) (5)

From: Hammar, Melissa - FSIS
Sent: Tuesday, July 25, 2017 10:27 AM
To: Sidrak, Hany - FSIS
Cc: Edelstein, Rachel - FSIS; Wagner, Roberta - FSIS; Michael, Matthew - FSIS
Subject: Swine modernization: 1-3 online inspectors

Hi Hany,

As requested, here's the section of the preamble that talks about how FSIS may assign 1-3 inspectors per line.

(b) (5)



Brook, Mark - FSIS

From: Sidrak, Hany - FSIS
Sent: Tuesday, August 23, 2016 5:43 PM
To: Hammar, Melissa - FSIS
Cc: Vermeersch, Thomas - FSIS; Pugliese, Andrew - FSIS; Volk, Lisa - FSIS
Subject: RE: NSIS staffing

(b) (5)
[Redacted]

[Redacted]

From: Hammar, Melissa - FSIS
Sent: Tuesday, August 23, 2016 10:19 AM
To: Sidrak, Hany - FSIS
Cc: Vermeersch, Thomas - FSIS; Pugliese, Andrew - FSIS
Subject: NSIS staffing

(b) (5)
[Redacted]

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[Redacted]

[Redacted]

Melissa Hammar
Program Analyst
USDA/FSIS/OPPD/IS
Phone: (202) 720-2096
Fax: (202) 690-0486