



The *Hog-Handling Update* is a monthly informational email from Elanco Animal Health focused on pig handling and transportation. The author, Dr. Matt Ritter, is a swine technical consultant with Elanco. With hands-on experience loading more than 50,000 pigs and a Ph.D. in pre-slaughter stress, Dr. Ritter combines academic and practical approaches to advancing the industry's knowledge.

1-800-428-4441
www.elanco.com



Dear *Hog-Handling Update* subscriber:

In this issue of *Hog-Handling Update*, the national statistics on dead pigs at USDA-inspected packing plants are summarized by calendar year. A special thank you goes to Mark Klassen and Savonne Caughey of Elanco Animal Health for collecting this data from FSIS.

Best regards,

Dr. Matt Ritter
 Swine Technical Consultant
 Elanco Animal Health

A 20-year history on dead pigs at the packing plant

Introduction

The percentage of dead pigs at U.S. Department of Agriculture (USDA) inspected plants is reported to the Food Safety Inspection Service (FSIS) as "swine condemned ante-mortem for dead". These national statistics are available to the public via the Freedom of Information Act and take into account all dead pigs at the packing plant (i.e., dead on arrival, euthanized, dead in pen, and yard dead). The annual data for U.S. market hogs on the percentage of dead pigs, the number of pigs harvested, and average live weight for the calendar years of 1991 through 2010 are presented below in Figures 1, 2, and 3, respectively. Average live weight was calculated by dividing dressed weight by 0.75. It is interesting to note that during this 20-year period, the number of pigs harvested increased from 74 to 109 million pigs per year, while average live weight increased from 235 to 268 lbs.^{1,2,3,4,5,6}

Figure 1. Percentage of dead pigs at USDA-inspected plants by year from 1991 to 2010^{1,2,3,4,5}

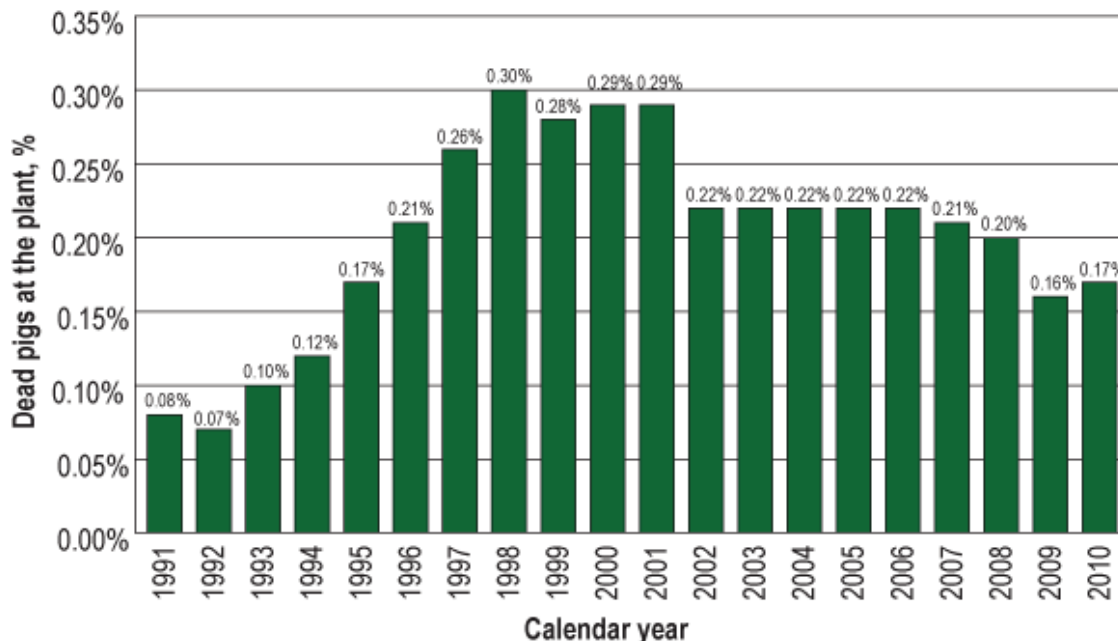


Figure 2. Number of pigs harvested at USDA-inspected plants by year from 1991 to 2010^{1,2,3,4,5}

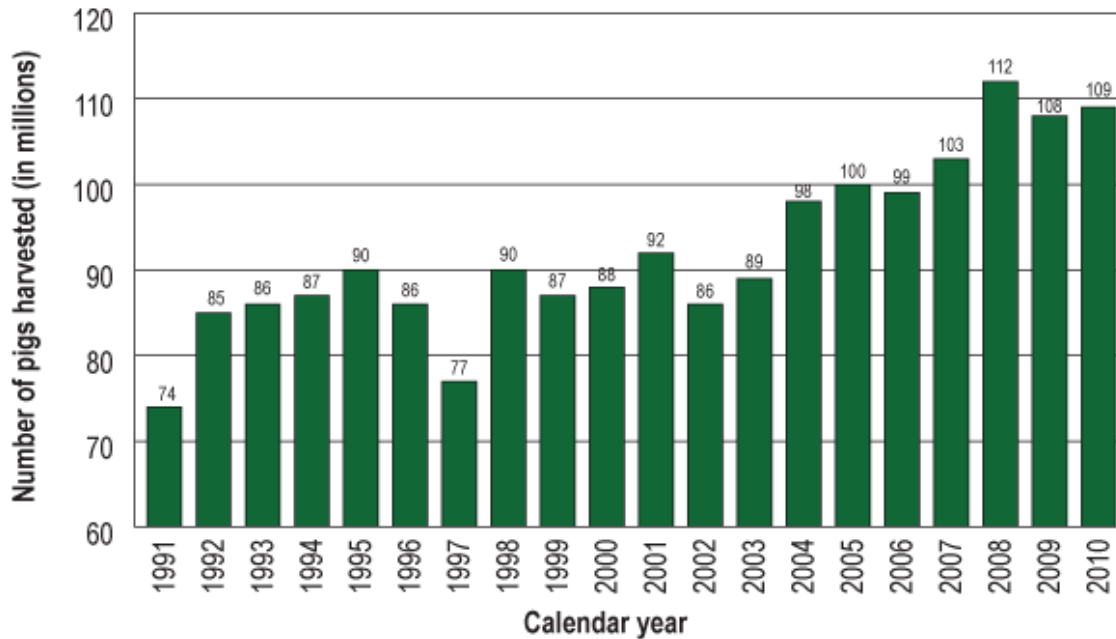
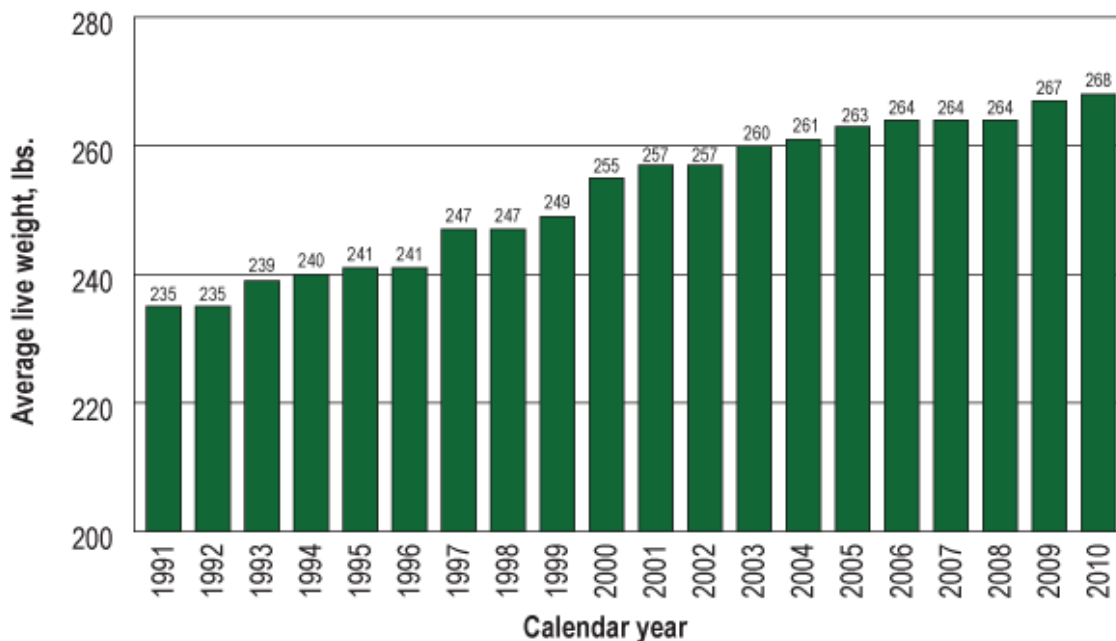


Figure 3. Average live weight of pigs harvested at USDA-inspected plants by year from 1991 to 2010⁶



1991 to 2001

The incidence of dead pigs at U.S. plants was very low in 1991 (0.08%) and 1992 (0.07%). However, the percentage of dead pigs at U.S. plants increased three-fold between 1993 and 1998 (Figure 1; 0.10% and 0.30%, respectively).¹ It is unclear why this value increased over this period, but some potential explanations include changes in genetics, increased live weights, and increased size of production operations.⁷ From 1998 to 2001, the percentage of dead pigs peaked and remained relatively constant (range: 0.28% to 0.30%; Figure 1).¹

2002 to 2010

From 2001 to 2002, the percentage of dead pigs at U.S. plants decreased from 0.29% to 0.22% (Figure 1).¹ This decrease might be attributed to greater industry awareness of losses during the marketing process. In 2002, the National Pork Board's Transport Quality Assurance™ (TQA) program was made available, and there was a concerted focus on research that yielded important knowledge.^{7,8,9}

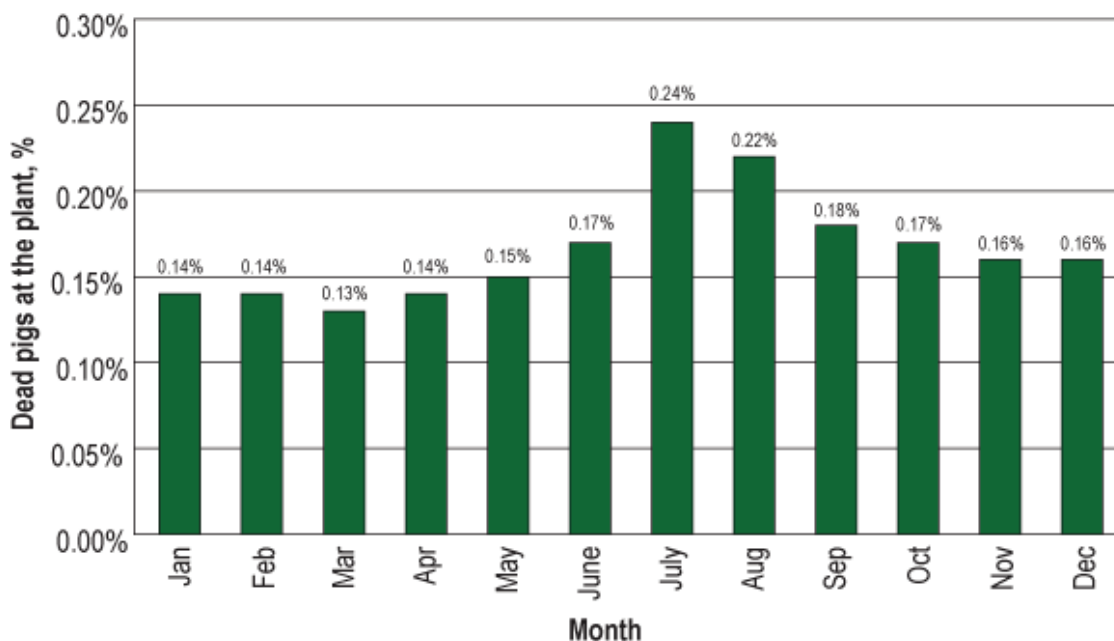
The percentage of dead pigs at the plant then leveled off at 0.22% during the years of 2002 to 2006 (Figure 1).¹ It is currently unknown why little change was made over this time period. However, it is important to note that during this same time period, several packers began to euthanize non-ambulatory pigs that had a low likelihood of recovering, and these pigs were reported as dead pigs to FSIS. Therefore, the definition of a dead pig at USDA-inspected plants has recently changed and now includes pigs that are euthanized at the plant.¹⁰ Another important fact to consider is that porcine circovirus type 2 (PCV2) had a major impact on the health and mortality of finisher pigs marketed over this time period as the first commercial vaccine was not available in the U.S. until July of 2006.^{11,12}

Meanwhile, dead pigs at the packing plant have decreased over the last four calendar years to 0.17% in 2010.^{2,3,4,5} This improvement may be attributed to pork producers and packers working together to implement proactive management strategies to prevent/minimize transport losses. For example, on-farm and in-plant training programs, standard operating procedures for pig handling and transportation, loading assessments, handling audits, and databases for transport losses have evolved significantly over the past four years. These management strategies are now becoming commonplace in the U.S. swine industry. Please note that Elanco can provide assistance in all of the areas listed above. For more information, please contact your Elanco representative or send your questions or comments to: dr.ritter@hoghandlingupdate.com.

Seasonal variation in dead pigs at the packing plant

Figure 4 illustrates the monthly incidence of dead market pigs at USDA-inspected plants for the calendar year of 2010. The months of July, August, and September had higher rates of dead pigs than the 2010 average of 0.17%.⁵ This comes as no surprise as it is well documented that the percentage of dead pigs at the packing plant is highest during the summer months.¹³ For practical tips on beating the summer heat, please see the special summer issue of the *Hog-Handling Update*.¹⁴

Figure 4. Percentage of dead pigs at USDA-inspected plants by month in 2010⁵



Summary

The percentage of dead pigs at USDA-inspected packing plants increased from 0.10% in 1993 to 0.30% in 1998.¹ The U.S. swine industry quickly recognized and noted that dead and non-ambulatory pigs represent animal welfare and economic concerns.^{7,8,9} Through research, training, and education, the U.S. swine industry has been able to reduce the percentage of dead pigs at the plant by 42% over the last 10 years, while the number of pigs harvested and average live weights have continued to increase (Figures 1, 2, and 3).^{1,2,3,4,5,6}

Handling help?

Elanco Animal Health offers a variety of animal-handling resources, including:

- Load-site assessments
- Loading crew and driver training
- Facility design evaluations
- Standard Operating Procedure (SOP) development
- Developing databases to track transport losses

To learn more about Elanco's animal handling resources, contact your Elanco representative or send your questions or comments to: dr.ritter@hoghandlingupdate.com.

Elanco® and the diagonal color bar are trademarks of Eli Lilly and Company.

All other trademarks are the property of their respective owners.

© 2011 Elanco Animal Health. All rights reserved.

References

¹ FSIS. 2007. "Market swine condemned ante-mortem for deads in USDA inspected plants for the calendar years of 1991 to 2006." FOIA Case #07-148.

² FSIS. 2008. "Market swine condemned ante-mortem for deads in USDA inspected plants for the calendar year of 2007." FOIA Case #08-120.

³ FSIS. 2009. "Market swine condemned ante-mortem for deads in USDA inspected plants for the calendar year of 2008." FOIA Case #09-00071.

⁴ FSIS. 2010. "Market swine condemned ante-mortem for deads in USDA inspected plants for the calendar year of 2009." FOIA Case #10-148.

⁵ FSIS. 2011. "Market swine condemned ante-mortem for deads in USDA inspected plants for the calendar year of 2010." FOIA Case #10-69.

⁶ USDA-NASS. 2011. "U.S. slaughter data for barrows and gilts from the calendar years of 1991 to 2010." Accessed September 26, 2011. <http://www.nass.usda.gov/QuickStats/PullData_US.jsp>

⁷ Ellis, M., McKeith, F., Hamilton, D., Bertol, T., and Ritter, M. 2003. "Analysis of the current situation: what do downers cost the industry and what can we do about it?" Pages 1-3 in Proceedings of the 4th American Meat Science Association Pork Quality Symposium, Columbia, MO.

⁸ National Pork Board. 2004. "Trucker Quality Assurance Handbook." C. Stahl, ed. National Pork Board, Des Moines, IA.

⁹ Anderson, D., Ivers, D., et al. 2002. "Physiological responses of market hogs to different handling practices." Pages 399-400 in Proceedings of the American Association of Swine Veterinarians, Kansas City, MO.

¹⁰ Ritter, M., Ellis, M., et al. 2009. "Transport losses in market weight pigs: I. a review of definitions, incidence and economic impact." Professional Animal Scientist. 25:404-414.

¹¹ Gillespie, J., Opriessnig, T., et al. 2009. "Porcine circovirus type 2 and porcine circovirus-associated disease." J Vet Intern Med. 23:1151-1163.

¹² Kristensen, C., Baadsgaard, N., Toft, N. 2011. "A meta-analysis comparing the effect of PCV2 vaccines on average daily weight gain and mortality rate in pigs from weaning to slaughter." Preventive Veterinary Medicine. 98:250-258.

¹³ Ritter, M. 2008. "A review of transport losses in market weight pigs." Page 6 in Proceedings of the Midwest Animal Science Meetings, Des Moines, IA.

¹⁴ Ritter, M. 2007. "Special report - tips for beating the summer heat." Hog-Handling Update, Special Late Summer Issue. Elanco Animal Health, Greenfield, IN.

If you do not want to receive this email newsletter, please follow the "To unsubscribe" instructions below.

If you wish to receive no further communication from Elanco – print or electronic – write to Elanco Animal Health, 2500 Innovation Way, Greenfield, IN 46140.

See our Privacy Policy at www.elanco.com.

SBU 2570 (10/11)

If you do not currently subscribe to *Hog-Handling Update* email newsletter, [click here](#) or go to www.hoghandlingupdate.com, fill out the form and click "Submit" to subscribe.

To unsubscribe: [Click here](#) or send an email message to dr.ritter@hoghandlingupdate.com. In the email subject line enter "Unsubscribe".