



## Efficacy of a new truck design for market pigs in Colombia

Juan David Rodriguez Giraldo and John J. McGlone, Pork Industry Institute, Texas Tech University, Lubbock, Texas 79409-2141

### Introduction

Pig transport losses represent a significant animal welfare concern from pigs that are dead on arrival (DOA), injured or fatigued at the processing plant. The rates of DOA, injured and fatigued (NANI) pigs also have a large economic cost. Newer truck and trailer designs may be able to improve both pig welfare and farm-processing plant economics. The objective of this study was to measure DOA, injured, and NANI pigs along with measures of environmental conditions and pig handling for pigs transported using typical Colombian trucks or a newer Spanish truck design.

### Methods

All data were collected at a single processing plant in Medellin Colombia. An observer recorded data on a standardized form while pigs were being unloaded by the truck driver and the plant staff. Data on start and end times of unloading, air temperature, humidity, cloud cover, use of bedding, transport time, and number of decks on each truck were recorded. A photograph record was made of each truck. The average truck transit time was 1.88 hours from the farm to the plant.

The number and percentages of pigs slipping, falling, rearing, vocalizing, with injuries, wounds, scratches, and the numbers of pigs DOA, injured or NANI were recorded. In addition, the observer used an infrared remote sensor to record pig skin temperatures.

A record of animal and people disposition was noted on a scale of 1 to 4. A score of 1 to 4 was calm, hurried, angry, and abusive. For animal dispositions, 1 to 4 was calm, nervous, excited, chaotic. A total of 82 trucks were observed (N = 4,453 pigs).

### Results

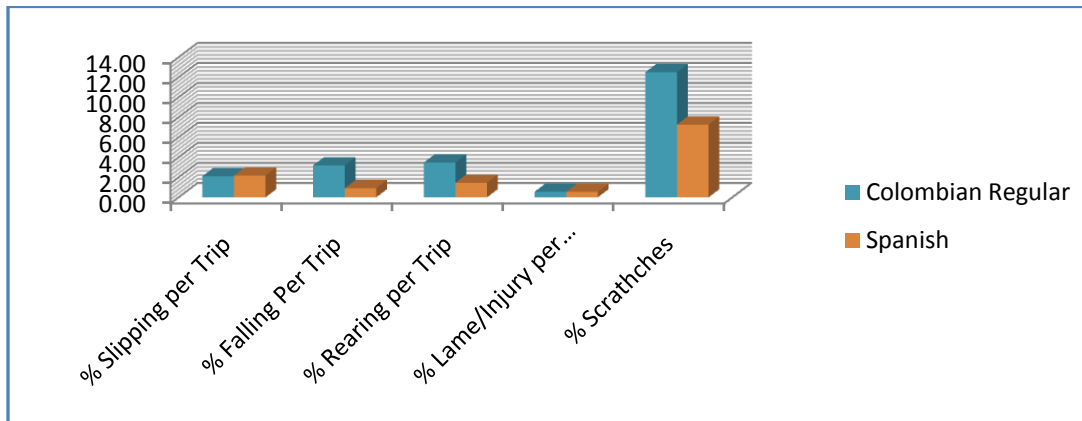
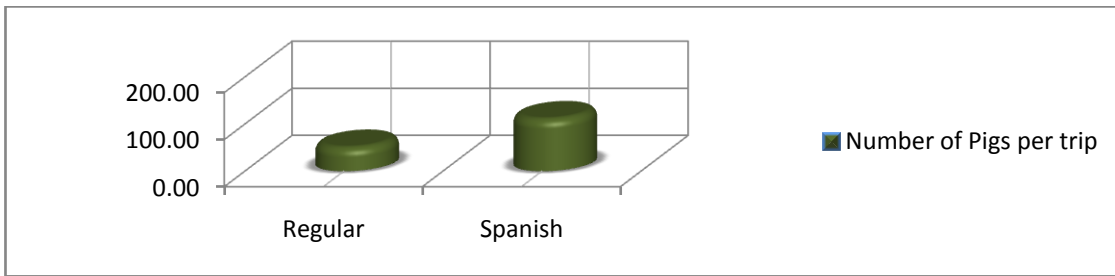
Presented in the table are data on the rates of DOA and NANI pigs along with data on slipping, falling, rearing and time to unload the trucks. Note the lower rate of DOA and NANI pigs for the Spanish truck compared with the Colombian truck.

The Spanish truck also carried more pigs per truck (average = 110) than the standard Colombian truck (average = 50 pigs/truck). This is largely because the Spanish trailer has 3 decks while typical Colombian trucks have 2 decks.

Based on the lower DOA rate, 1.5 pigs would be saved per week if five trips were made per week with the Spanish truck.

Table 1. Rates of pig losses and pig handling measures.

Truck	% DOA	% NANI	% Hits	% Vocalizations	% Slipping	% Falling	% Rearing	Time to Unload 100 pigs (min)
Colombian	0.28	0.26	185.42	110.92	2.11	3.18	3.47	22.02
Spanish	0.00	0.00	176.36	96.36	2.18	0.91	1.45	22.60



### Conclusions

Relative to typical Colombian trucks, the Spanish truck showed improvements in DOA, and NANI rates. There was not an observed difference in pig handling measures (slips, falls, and vocalizations). Because the Spanish truck had three decks, it could carry twice as many pigs per trip. In conclusion, the Spanish truck had value to Colombian producers in terms of both carrying more pigs and reducing the rates of dead and fatigued pigs.