

Effect of demographic trends in livestock inventory and number of operations on food animal veterinary practices in the United States

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Introduction

Livestock inventory and the number of operations are the main source of income that supports food animal veterinary practices in rural areas. Over time, they provide a description of industry trends and serve as data points or baseline for comparisons for service providers (e.g., veterinarians), input suppliers, producers, and government, among others. Food animal veterinary supply (shortage) has recently been a source of debate in academia and representative organizations. The objectives of the present study were: 1) to estimate the trends of livestock inventory (dairy, beef, sheep, and swine) and the number of operations by size (≤ 99 , 100-499, and ≥ 500 head) from 1982 to 2010 in the US and 2) to compare these trends with the designated areas of food animal veterinary shortage for 2010 in the US.

Materials and Methods

Historical data collected by the National Agriculture Statistical Services (NASS) and the Veterinary Medicine Loan Repayment Program (VMLRP; USDA-AFRI, Animal Health) were used in the present study. Livestock inventory (millions of head) by county and the numbers of operations by size (≤ 99 , 100-499, and ≥ 500 head) were estimated for 1982 and 2010. The data collected at each point in time was compared to estimate the percentage changes in livestock inventory and the numbers of operations between 1982 and 2010. The VMLRP reported the state-designated veterinary shortage situations by county for 2010 in the United States. Type I (private practice with $\geq 80\%$ time dedicated to food animal medicine) and type II shortage situations (private practice, rural areas, with $\geq 30\%$ time dedicated to food animal medicine) were considered for the analysis.

Results

A reduction in livestock inventory was observed for beef (18.4%), dairy (15.1%), and sheep (58.4%); whereas, the inventory for swine increased (56%) from 1982 to 2010. Regardless of operation size, the overall numbers of operations was reduced for beef (10.4%), dairy (40.2%), sheep (30.7%), and swine (33.6%). The livestock industry has lost about 50% (range, 21% to 66%) of small (≤ 99 head) beef, dairy, sheep, and swine operations from 1982 to 2010. During the same period, the proportion of operations with ≥ 500 head has steadily increased for dairy (250% increase) and beef (600% increase) herds.

According to the VMLRP, an estimated 187 shortage areas (in 628 counties) were reported in 2010. When 2010 data from the NASS and the VMLRP were compared, about 30% (Type I) and 52% (Type II) of the counties with veterinary shortage situations had $\leq 12,000$ head of livestock (all cattle, sheep, and swine combined) to support food animal veterinary practices. In 1982, about 3% (Type I) and 13% (Type II) of the counties with shortage situations in 2010 had $\geq 12,000$ head of livestock to support food animal veterinary practices.

Significance

Compared with 1982, the 2010 US livestock industry was characterized by fewer producers of larger size. Livestock industry consolidation (steady decline in livestock inventory and number of operations with ≤ 99 head) may contribute, at least in part, to those designated food animal veterinary shortage situations. The effect of livestock industry consolidation on the designated food animal veterinary shortage situations in rural areas needs further investigation.