

Culling, Mortality and Lifetime Production among U.S. Sows

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Summary and Implications

To evaluate the present situation, sow removal and lifetime production was investigated among 132 U.S. pork producers participating in the Datashare program with PigCHAMP. Of the removed sows, 18% only produced one litter before removal, and less than 50% produced five litters. Most sows (32%) were removed due to reproductive disorders and only every fifth are removed due to old age. Of the removed sows 84% were slaughtered, 3% were euthanized on farm and 12% were mortalities found on farm. On average a sow weaned 40.6 piglets during her lifetime. There was a substantial variation between farms. Producers need to be aware of that too high and too early removal of sows result in lower profitability and evaluate their situation.

Introduction

Sow removal is today receiving more attention due to its impact on economic and animal well being considerations. High removal rate of breeding herd females is associated with poor longevity. When the average longevity is low, improvements can be highly profitable. Reducing high replacement costs due to high removal are especially important today when the pig production industry is operating on very slim if any profit margins. Since the development cost for a gilt is the same regardless of production level and length, producers gain more if sows have a long and productive herd life. To evaluate the present situation this study aimed at evaluating removal and lifetime production of sows among U.S. pork producers.

Materials and Methods

Data consisted of sow records from 132 U.S. farms participating in the Datashare program with PigCHAMP. Records were available from 1996 to 2007 and analyses included sows farrowing for the first time from 1996 to 2004, resulting in 515,194 removed sows. Presented figures are averages of the 132 farms.

Results and Discussion

The average parity at removal, including both culling and mortality, was 4.5 with a large range between farms (see Table 1). Of the removed sows, 18% of the sows were

removed after parity 1 and only 15% were productive through eight litters. Thirty percent of the sow removal occurred before the sows reached parity three, which is when they typically pay their development cost. This means that almost every third sow has negative net income. Less than 50% of the sows produced five litters. Average lifetime production varied a lot between farms, see Table 1.

Removal of old sows is a natural component of piglet production and is called planned removal. Planned removal also includes removal of sows with low productivity, but these two reasons only accounts for 30% of the sow removal. The challenging situation is the unplanned= involuntary removal of sows which includes removal of sows due to reasons such as reproductive failure, lameness and mortality. The most common removal reason was reproductive failure (e.g. return to estrus, lack of estrus) which accounted for 32% of the removals. Most of these were culled due to return to estrus (17%). Locomotor disorder was another common unplanned removal reason which accounted for 14% of the removals, including lameness (10%) and "downer" (4%).

Unplanned removal accounted for most of the removal in low parity numbers. The proportion of removal due to reproductive failure was almost 50% in parity one and represented the largest removal reason up to parity five where it accounts for 30% of the removals. Removal due to locomotor disorders mainly occurred in parity one to five whereas removal due to low productivity mainly occurred after parity three. Removal due to old age was the most common removal reason after parity six.

Today, sow removal from the breeding herd of commercial operations includes a substantial proportion of sows that are not sent to slaughter but euthanized on farm or found dead on farm. Of the removed sows, 84% were sent to slaughter, 3% were euthanized on farm and 12% were mortalities found on farm. Sows that are sent to slaughter represent a relatively small income due to cull sow value to the operation but it's much better than the zero value alternatives of mortalities and euthanized sows. In addition, the proportion of sow mortality was highest in low parity numbers. This is therefore a worse kind of removal, both in an economical and animal well being point of view.

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Table 1. Averages sow productive lifetime length and production calculated on herd level from 132 U.S. pork producers participating in the Datashare program with PigCHAMP.

	Average	Min	Max	25% superior	10% superior
Removal parity	4.5	2.7	7.1	5.0	5.5
Total piglets born	51.8	28.5	79.0	57.1	62.6
Total piglets born alive	46.4	25.4	71.4	51.6	56.4
Number of piglets weaned	40.6	22.3	64.1	45.2	49.3