

Marketing management can be defined as selecting the correct pig or group of pigs that best meet a packer's specifications for weight and body composition. Marketing pigs is both an art and a science and requires a combination of population statistics and the skillful selection of the correct pigs from a group. Improper marketing management leaves money on the table; as such, the goal should be to increase the number of pigs that meet the specifications of a particular packer.

## Population Statistics

The following section will give some insights into and explanations of the population statistics needed to estimate individual pig weights and marketing metrics. To fully understand population statistics, it is important to be familiar with the following terms:

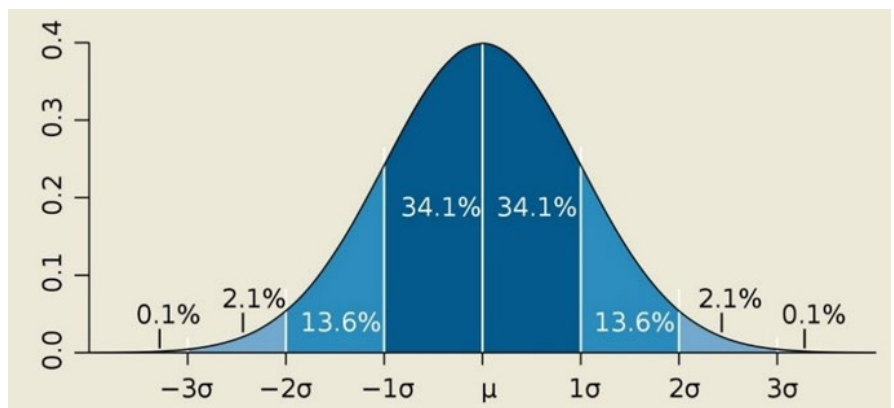
**Mean:** *The average of a group of numbers (i.e., pig weights).*

**Standard deviation:** *A measure of how far data points are from the mean.*

**Normalized bell curve:** *Depicts the distribution of numbers within a data set using the mean and standard deviation.*

For example, the mean (average,  $\mu$ ) weight of one group of pigs is 240 lbs. and the standard deviation is 22 lbs. This means that 68.2% of the pigs in the group weigh between 218 lbs. and 262 lbs. or within one standard deviation ( $\sigma$ ) ( $\pm 22$  lbs.) of the average weight of 240 lbs. Of the remaining pigs, half will weigh more than 262 lbs. (15.1%) and half (15.1%) will weigh less than 218 lbs.

The chart on the right shows a typical bell curve or population distribution. The dark blue area represents the pigs that fall within one standard deviation of the group. The lighter blue areas represent pigs that are more than one standard deviation from the average.



## Optimizing Market Weight to Improve Profits

Selling more pigs in the highest-paid category will increase the net profit per pig. Since selection variation affects the number of pigs in each category, reducing the standard deviation will reduce the variation. The lower the standard deviation of the load and the closer the average weight of the load is to the optimal marketing weight, the greater the return will be on a per-pig basis. An excellent carcass weight standard deviation of a load is approximately 13 pounds. This means that 68.2% of the pigs in the load are within 13 lbs. of the average load weight. Conversely, a standard deviation of 19 lbs. is poor. Reducing the carcass standard deviation of a load from 19 to 13 pounds can increase revenue by up to \$3.50 per pig.

As a history of the operation's marketing performance is compiled, techniques to reduce marketing variations can be implemented to decrease load variations. These techniques include:

- Consistently measuring the load standard deviation and making goals to improve it.
- Using feed consumption and the feed budget to guide when the first cut should be made. Feed consumption is the best predictor of weight.

Build enough time into a flow of pigs so that pigs are not forced out of the barn before they can reach their target market weight.

## Marketing at a Lighter Target Weight

- At times, it makes sense to take the first cut of pigs out of the barn at a lighter weight if the barn is overstocked. Removing pigs from the barn sooner will increase the growth rate of the remaining pigs in the barn. An increase in the performance of the remaining pigs in the barn can offset the lost profits from selling the first cut at a lighter weight. In addition, selling the first cut at a lower target weight helps prevent producers from getting behind on marketing and being forced to sell later groups at weights that are too heavy for the best premium.

## Understanding the Cost of Production

The first step to setting up a margin management plan is to understand all the costs that go into raising a pig. The two types of costs that need to be calculated are fixed and variable costs.

### - *Fixed Costs*

Fixed costs are comprised of the ongoing costs that are incurred whether or not pigs are being produced. These costs include facility costs, equipment depreciation and interest on assets.

### - *Variable Costs*

Variable costs consist of any costs that are incurred only when pigs are being produced. These costs include feed, transportation, labor, genetic fees and veterinary expenses.

## Fixed Time vs. Fixed Weight

Understanding whether a system is marketing pigs on a fixed-time or a fixed-weight basis is a crucial aspect to consider when creating diets for a particular production system and its economic impact on the producer. "Fixed time" means that a system does not have flexible space in the production flow to keep pigs after a certain number of days. Fixed-weight programs have some flexible amount of space in their barn, allowing pigs to be kept in the barn until they achieve an ideal weight for the processing plant's specific carcass value payout structure. The difference between these two scenarios is important because it changes the relative value of the growth rate. The value of weight gain is higher in a fixed-time system, due to the limited growing days; however, in a fixed-weight system, pigs can stay in the barn at a fixed cost, so the economic value of weight gain through a given nutritional or management strategy is lower than in a fixed-time scenario.

Most producers believe that the initial marketing groups from a barn should be valued using a fixed-weight scenario while the remaining pigs should be offered as fixed time, with a growth pace being more crucial. To take advantage of the often-higher summer market prices, however, producers usually want all pigs to develop more quickly, effectively increasing the margin over feed. Fixed time vs. fixed weight illustrates the range of economic optimums and comparing them can be a useful tool for determining how economically sensitive dietary modifications are.

## **Determining a Desired Profit Per Pig**

There are so many different marketing contracts, blends and cash-basis variations that it can become difficult to project profits or losses for a specific farm. A number of profit projection tools are available through universities and public organizations. Utilizing a model with specific farm inputs can help producers more accurately forecast their inputs and expenses with the goal of locking in some costs, managing risks and estimating profits.