

# How Much Meat Will My Customers Get?

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It is common for producers/customers to have a misconception on the amount of edible product (i.e. meat) to expect from a market animal. There are several factors and decisions that can greatly alter the amount of meat produced from an animal. These include the composition of the animal, the management practices, and the cutting procedures used to fabricate the carcass. This document is meant as a guideline to show how various factors and conditions impact the amount of meat that should be expected from a market animal.

## How to calculate the amount of meat you should get from a market animal:

Total pounds of meat = (Dressing Percent x Carcass Cutting Yield) x Live Weight

### Dressing Percentage

Dressing percentage is the percentage of the live animal that remains as the carcass. Therefore, items that will remain with the carcass (muscle, fat, bone) will increase the dressing percentage, while items that are removed from the carcass (hide, internal organs) will decrease the dressing percentage.

Dressing Percentage = (Carcass Weight / Live Weight) x 100

Dressing Percentage is affected by:

1. Muscling
  - a. Animals that are heavier muscled will have a higher dressing percentage than animals that are light muscled, because the muscle remains with the carcass and therefore increased the carcass weight.
2. Fatness
  - a. Animals that are fatter will have higher dressing percentages than animals that are lean, because the fat remains with the carcass and therefore increases the carcass weight.
3. Gut Fill
  - a. Increasing the gut fill will decrease the dressing percentage, because the internal organs are removed during the harvest process.
  - b. Weighing an animal directly off of full feed can reduce the dressing percentage 2-5% compared to animals that have fasted (no feed, but access to water) for 24 hours.
  - c. Species can greatly impact gut fill as monogastrics (simple stomachs; i.e. pigs & poultry) will have a lower gut fill, and therefore higher dressing percentage compared to ruminates (multi-compartment stomachs; i.e. beef, sheep, goats).

#### 4. Hide Weight

- a. Increasing the hide weight will decrease the dressing percentage, because the hide is removed during the harvest process.
- b. Large amounts of wool, mud, manure, and vegetation can increase the hide weight and therefore decrease dressing percentages
- c. Pigs are generally not skinned in commercial facilities, and therefore generally have a higher dressing percentage

Average Dressing Percentages:

Beef Cattle:	62%
Dairy Cattle:	59%
Pigs:	74%
Lambs:	54%

## Carcass Cutting Yield

Carcass cutting yield is the amount of the carcass that will be retained for consumption. Therefore, carcass composition items that will remain (muscle, bone) will increase the carcass cutting yield, while items that are removed (fat, bone) will reduce the carcass cutting yield. Additionally, decisions made by the processor/customer will impact the cutting specifications which will impact the carcass cutting yield.

Carcass Cutting Yield = (Pounds of Meat / Carcass Weight) x 100

Carcass Cutting Yield is affected by:

1. Carcass Composition
  - a. Muscling
    - Carcasses with more muscle will have a higher cutting yield than light muscled carcasses, because muscle is edible product.
  - b. Fatness
    - Carcass with less fat (i.e. leaner) will have a higher cutting yield than fatter carcasses
2. Cutting Specifications (determined by the customer or processor)
  - a. Bone-in or Boneless
    - Bones contribute a significant amount to the carcass weight, therefore if they are removed it will drastically reduce the carcass cutting yield.
    - Choosing bone-in steaks and roasts will increase the carcass cutting yield, while choosing boneless steaks and roast will decrease the carcass cutting yield.
    - However, bone-in vs boneless will **not** change the amount of edible product.
  - b. External Fat Trim
    - If a greater amount of fat is left on the outside of the steaks, chops, or roasts this will increase the carcass cutting yield.
    - If the steaks, chops, or roasts are trimmed close, with little external fat, this will reduce the carcass cutting yield
    - The typical external fat is trimmed to ~1/4 inch of fat
  - c. Leanness of the Ground Product
    - If the ground product is made very lean, then a greater amount of fat has been removed and the carcass cutting yield will be reduced
    - The typical fat content for ground beef is ~20% fat, while ground pork and pork sausage is generally higher ~25% fat

## Examples

The following tables show examples of how animal management (animal gut fill, wool length), animal/carcass composition (muscling, fat), and cutting specifications (bone-in/boneless, external fat, and ground product leanness) can impact the total pounds meat.

### Beef

All examples are of a beef animal with a live weight of 1200 lb.

	Examples				
	1	2	3	4	5
Animal Gut Fill	Full	Full	Full	Full	Empty
Muscling	Average	Average	Heavy	Light	Heavy
Fat	Average	Average	Lean	Fat	Lean
Bone-In / Boneless	Bone-In	Boneless	Bone-In	Boneless	Bone-In
External Fat	Regular	Close	Close	Close	Regular
Ground Leanness	Regular	Lean	Lean	Lean	Regular
Dressing %	61%	61%	63%	60%	65%
Carcass Cutting Yield	71%	60%	71%	56%	79%
<b>Total Pounds of Meat</b>	<b>520</b>	<b>439</b>	<b>537</b>	<b>403</b>	<b>616</b>

### Pork

All examples are of hogs with a live weight of 250 lb.

Note: These values are for examples of skin-on carcasses and it is possible that plants may skin pork carcasses. Skinned carcasses will have a lower dressing percentage (high hide removal), but a higher carcass cutting yield (less external fat removed). Therefore the pounds of meat will be the same if a pork carcass is skinned or left skin-on.

	Examples				
	1	2	3	4	5
Animal Gut Fill	Full	Full	Full	Full	Empty
Muscling	Average	Average	Heavy	Light	Heavy
Fat	Average	Average	Lean	Fat	Lean
Bone-In / Boneless	Bone-In	Boneless	Bone-In	Boneless	Bone-In
External Fat	Regular	Close	Close	Close	Regular
Ground Leanness	Regular	Lean	Lean	Lean	Regular
Dressing %	73%	73%	75%	72%	77%
Carcass Cutting Yield	75%	64%	74%	60%	82%
<b>Total Pounds of Meat</b>	<b>137</b>	<b>117</b>	<b>139</b>	<b>108</b>	<b>158</b>

## References:

Wulf, D. M. and K. Underwood. 2010. South Dakota State University, Brookings, SD

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