

# Amount of Freezer Beef Expected from a Carcass?

by Dr. Ron Lemenager

Extension Beef Specialist

Purdue University – Animal Sciences Department

An average beef animal weighs about 1200 ( $\pm$  250) pounds and has a hanging hot carcass weight (HCW) of about 750 ( $\pm$  200) pounds. In general, freezer beef is sold using HCW as the basis. Hot carcass weight represents about 63 ( $\pm$  2) percent of live weight (dressing percent) and is affected by the length of time an animal is away from feed and water, amount of muscling, distance transported, and amount of finish.

Hot carcass weight does not include the tongue, liver, or oxtail since they are removed from the carcass during the harvesting process. Carcass sides are nearly equal in weight and they each represent approximately 50% of the HCW. When a carcass side is split into carcass quarters, the forequarter represents approximately 55% of the hot carcass side weight, while the hindquarter represent approximately 45%. A split-side or quarter is approximately 50% of the hot carcass side weight.

Within the first 48 hours following harvest, carcasses typically shrink 1 to 2 percent. This carcass shrink (decrease in weight) is due to moisture loss and can be affected by amount of fat cover on the carcass, as well as cooler temperature and humidity. During the 14 day dry-aging process (carcasses hanging in the cooler before cutting and packaging), the carcass will shrink a total of 4 to 6 percent from the original HCW. Additional moisture and trimming losses can be expected as carcasses are broken down into retail cuts and ground beef. Specific cutting instructions (boneless vs. bone-in; 90 vs. 80% lean ground beef; roasts vs. ground beef; use of flank steaks and brisket vs ground beef; etc.) will affect both the amount of beef product (retail yield) and type of cuts placed into packages.

**A general rule of thumb for carcass beef is 25% bone and trim loss, 25% steaks, 25% roasts, and 25% ground beef.**

The type of cattle, as well as cutting and trimming procedures, can have a dramatic affect on retail yield. When fat and bone are removed, the weight of take home product from a carcass decreases.

**The packaged beef take home weight is approximately 40 percent of the animal's live weight, or 75 percent of the HCW.**

Table 1 shows the approximate retail yields from carcasses of different yield grades. Table 2 illustrates the approximate carcass weights and take home package weight by live animal weight.

**Table 1. Approximate percent retail yield from carcasses of different yield grades.**

Yield Grade	% Retail Yield per Side	% Retail Yield per Forequarter	% Retail Yield per Hindquarter
1	82.0	84.0	79.9
2	77.4	79.0	74.9
3	72.8	75.6	69.9
4	68.2	71.4	64.9
5	63.6	67.2	59.9

**Table 2. Approximate carcass and take home weights by live animal weight.**

	Live Weight, lb				
Item	1030	1110	1200	1270	1350
Hot carcass wt., lb. <sup>a</sup>	650	700	750	800	850
Take home wt., lb <sup>b</sup>	488	525	562	600	638
Carcass side wt., lb <sup>c</sup>	325	350	375	400	425
Take home wt., lb <sup>b</sup>	244	262	281	300	318
Split-side wt., lb <sup>d</sup>	162	175	188	200	212
Take home wt., lb <sup>b</sup>	122	131	141	150	159
Forequarter wt., lb <sup>e</sup>	180	190	205	220	233
Take home wt., lb <sup>f</sup>	138	146	158	170	180
Hindquarter wt., lb <sup>g</sup>	145	160	170	180	192
Take home wt., lb <sup>h</sup>	104	115	122	130	138

<sup>a</sup> Hot carcass weight is approximately 63% of live weight.

<sup>b</sup> Take home weight is approximately 75% of the respective hot carcass weight.

<sup>c</sup> Approximately 50% of the carcass weight.

<sup>d</sup> Split-sides are where two customers each get a quarter of beef using similar cutting instructions.

<sup>e</sup> Forequarter weight is approximately 55% of the carcass side.

<sup>f</sup> Take home weight is approximately 77% of the forequarter weight.

<sup>g</sup> Hindquarter weight is approximately 45% of the carcass side.

<sup>h</sup> Take home weight is approximately 72% of the hindquarter weight.