

USDA Estimated Composite Pork Carcass Cutout – An Overview

Jan 3, 2006

WHAT IS IT? -

The Pork Carcass Cutout (PCC) is an estimate of the value of a 53-54% lean, 200 lb. hog carcass based upon current wholesale prices being paid for sub-primal pork cuts. The PCC provides an indication of the overall supply and demand situation of the wholesale pork cuts market. A composite value is calculated each day for the various pork primals and these values are combined to reflect a single composite value of a pork carcass. These cuts reflect a standard cutting specification and must be traded on a negotiated basis to deliver within seven working days of the time of sale for processing cuts and 10 working days for retail items. (see Figure 1)

USDA ESTIMATED COMPOSITE PORK CARCASS CUTOUT								
Based on FOB Omaha carlot pork prices and industry yields.								
Calculations for a 200 lb Pork Carcass								
51-52% lean, 0.65"-.80" backfat at last rib								
Date	Total Loads	Today's Primal Cutout Values						
		Cutout	Loin	Butt	Pic	Rib	Ham	Belly
10/10	17.5	71.77	83.60	76.37	48.38	107.74	65.18	91.06
Change:		-0.34	0.33	-2.11	-1.52	unc	-0.16	unc
10/07	44.7	72.11	83.27	78.48	49.90	107.74	65.34	91.06
10/06	54.5	72.55	85.84	78.42	46.80	106.78	66.21	91.06
10/05	68.5	71.73	84.36	76.96	46.58	106.78	65.09	91.06
10/04	109.5	72.47	85.65	80.33	45.51	106.30	66.57	90.09
Current Five Day Simple Average -		72.13	84.54	78.11	47.43	107.07	65.68	90.87
NOTE: Value may change without adequate test.								
<i>Figure 1</i>								

BACKGROUND INFORMATION -

As pork carcasses enter the fabrication portion of the plant, they are broken into primal units. These primals then make their way to the cutting tables where they are fabricated into the various sub-primal styles. Only one sub-primal style can be created from a given primal and in the process various by-products or credit items are created. These credit items vary in type and quantity depending on the sub-primal style being produced and may include such items as trimmings, bone, fat, etc. The potential value of these sub-primals depends on how much work is done on the cut (boneless cuts require more fabrication, and thus cost more to produce than bone-in cuts) i.e. which muscle groups are removed, how much fat trimming is done, and other similar factors. Ideally, processors produce cuts to fill already existing orders. However, when this is not possible, they will produce styles for which there is regular demand and will stockpile them for eventual sale. Because of this, there tends to be larger quantities of these styles traded, and consequently, they have more impact on the processor's overall cutout. The processor's overall cutout is determined by the relationship between the value and the volume of sub-primal styles being produced and sold. The processor looks at this overall cutout as an indication of their own performance.

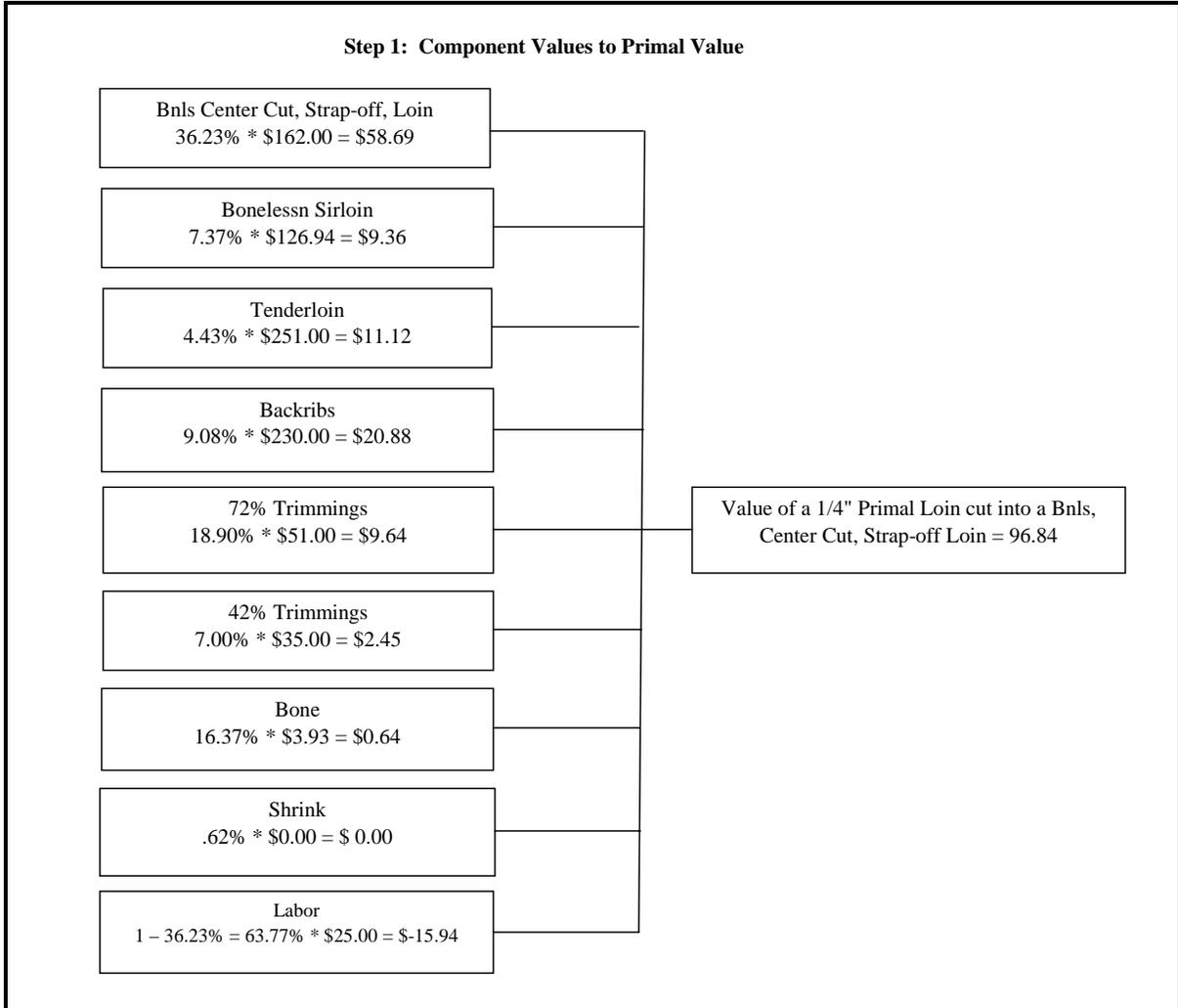
The PCC provides an overall cutout or performance indicator for the pork cuts industry. Its formulation replicates the processes used by the industry when calculating their own overall cutouts. Styles produced and sold in larger volume will have more impact on the overall cutout; higher value sub-primals of equal volume compared to lower value sub-primals will have more impact. Seasonal shifts in the amount and types of cut styles being produced will be reflected as they occur since the PCC is driven by a broad base of cut styles.

HOW DOES IT WORK? -

The PCC is a series of mathematical calculations through which current pork cut prices and industry cut yields are used to calculate primal values. These primal values are factored against their yield from the carcass and the resultant values are combined into the final carcass cutout value. These steps and their accompanying calculations are best illustrated through a sample calculation.

STEP 1: COMPONENT CUTS TO SUB-PRIMAL VALUE –

The process used to calculate the PCC is illustrated here using the boneless, center-cut, strap-off loin style as an example. The same series of steps is followed for all of the other pork primals. When a sub-primal cut is fabricated from a primal, you are left with not only the sub-primal style, but also with various component parts or credit items such as trimmings and fat. Moreover, you have some weight loss which occurs when surface area is exposed to the air which is referred to as shrink. This shrink is shown as a percentage to get to 100% but no value is assigned.

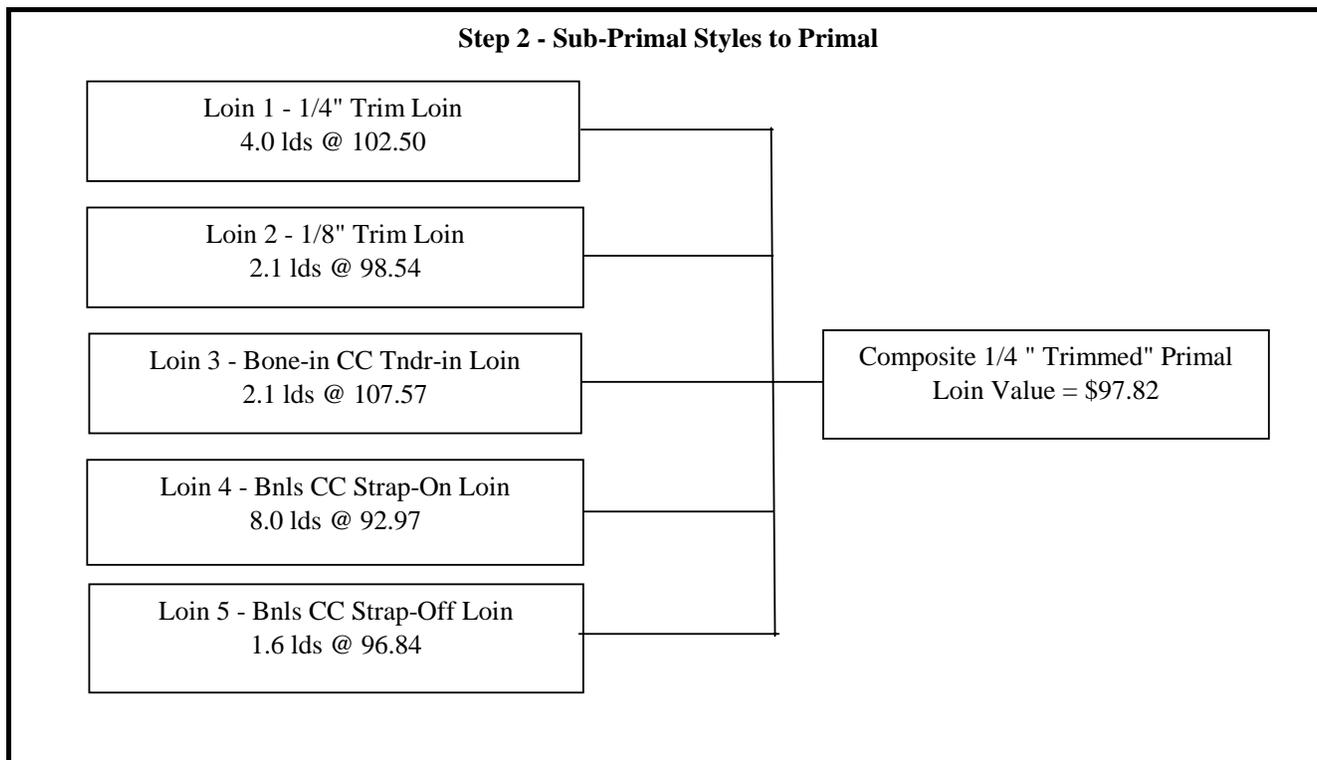


In order to determine a value for a primal based on the type of sub-primal produced from it, you must determine a value for each of the components of the sub-primal. This value is calculated by factoring the current price (minus any packaging costs) against the yield for each of the components. Once the value of the various components are added together into a composite value, an accounting must be made for shrink and labor costs which make up part of the composite value. The products are then summed into a single composite value for the primal (see Step 1 table)

Remember, we are trying to get back to the original primal and there were no labor costs at that point. The more labor intensive it is to produce a cut of meat the more labor costs are involved. To accurately calculate this cost, first determine the yield of the sub-primal cut from the primal cut. In our example, the sub-primal yield from the primal loin was 36.23% which means that 63.77% of the primal was left over. To calculate labor costs, factor 63.77% by an industry standard \$25.00 processing cost. This yields \$15.94 in labor costs which is subtracted from the composite value of the components to arrive at a labor-free value of the original primal.

Since the yields used for the various components are to a trimmed primal, the last step is to convert the “trimmed” primal value to an untrimmed or commodity primal value. The appropriate “Trimmed Primal to Untrimmed” table is used to determine this value (see Step 3 table).

The calculations outlined in step 1 affix a value to a primal depending on the sub-primal produced from it. For each primal, this step is being done for several different sub-primal styles. The next step combines the primal values from each sub-primal style into one overall primal value.



STEP 2: SUB-PRIMAL STYLES TO PRIMAL –

Once a composite primal value has been calculated for each of the major sub-primal styles produced from that primal, these values must be combined into a single, overall composite value for the primal (see Step 2 table). There are five major loin styles routinely produced from a pork carcass. Each of these returns a value for the primal loin and each is a part of the overall, composite primal loin value. This composite primal loin value is calculated by taking the weighted average of the five loin sub-primal values using the number of loads of each sub-primal reported on the pork cuts report as the “weight”. This allows those cuts being traded in largest quantity to have the most affect on the cutout which is as it should be and is in actual practice in the industry. That is basically it for step 2. Just remember, these steps are occurring for the loin, butt, picnic, and ham primals as trades are being reported. To arrive at the value for spareribs and bellies, a simple average of the styles being used is calculated. For spareribs, 3Bag/3 PcVac4.25#/dn-lgt and 2 Bag/3 PcVac4.25#/up-med and for bellies, Skin-on, Trimmed 14-16# and Skin-on, Trimmed 16-18#.

STEP 3: COMPOSITE 1/4" LOIN AND BUTT PRIMAL TO UNTRIMMED PRIMAL –

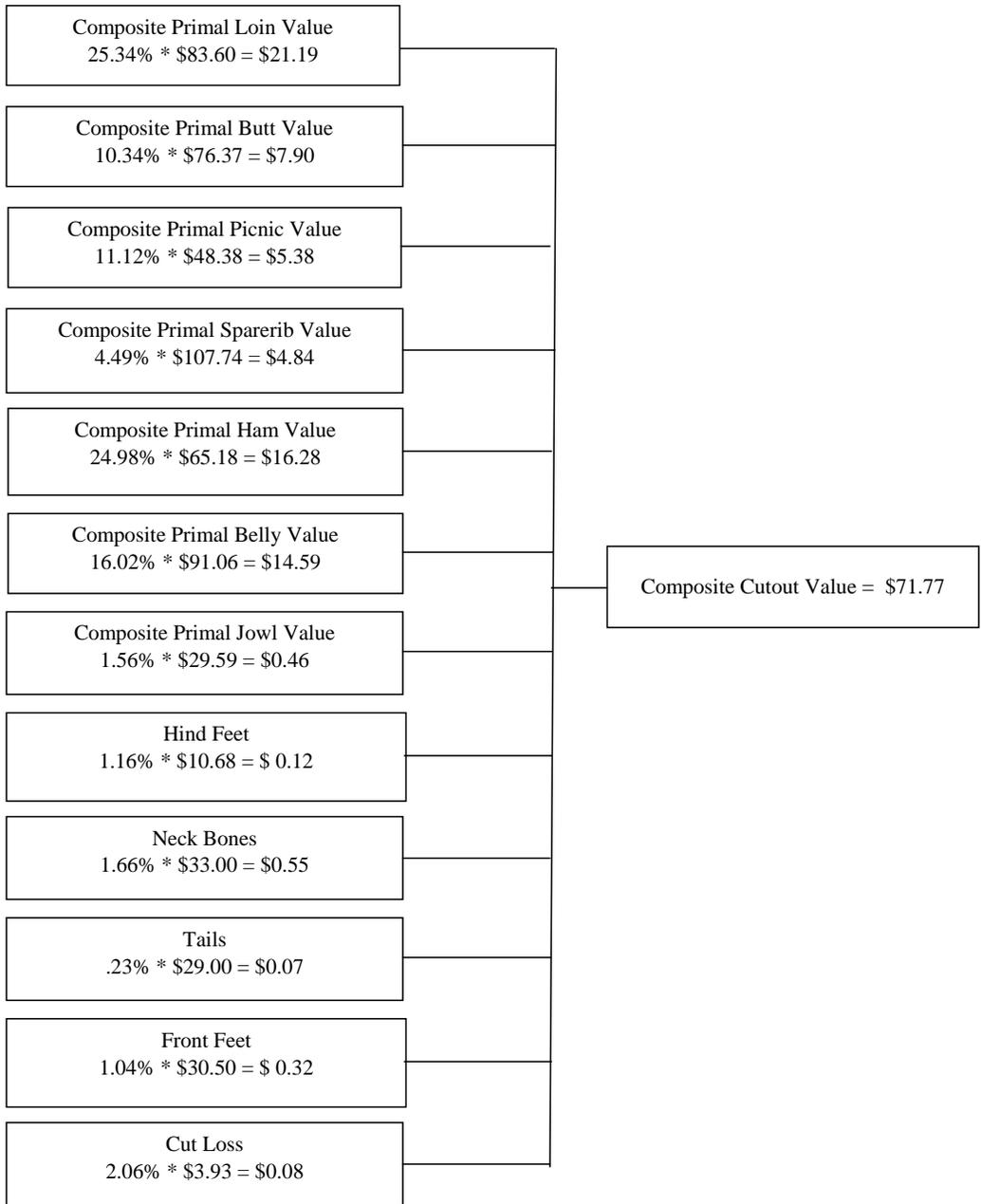
Because the 1/4" trimmed loin is used as the composite primal, it needs to be converted to an untrimmed primal value (see Step 3 table). This additional step is also required for boston butts, spareribs, and bellies.

Step 3: 1/4" Trimmed Primal to Untrimmed Primal			
Component	%	Value	Total
1/4" Loin	81.60	97.82	79.83
T/Trace	5.86	27.00	1.58
Fat	5.86	15.24	0.89
Skin	6.68	19.50	1.30
Drop Loin	100.00		\$83.60

STEP 4: PRIMAL TO CARCASS CUTOUT –

In step 4 (see Step 4 table), we combine the composite primal loin value calculated in step 3 along with similar values calculated for the other primals into the cutout. Each primal is a percentage of the entire carcass and this yield factor or percentage is multiplied by the composite primal value for each primal. Also, there is some cutting loss which occurs and this loss must also be taken into account. Cut loss is calculated by factoring the cut loss percentage by the rendered value. In addition, other carcass components that have not yet been accounted for must be calculated in this step. These components would include neckbones, tails, front feet, and hind feet. Once again, these component values are multiplied by their respective carcass yield. These primals, components, and cut loss, are then summed and the result is the pork carcass cutout.

Step 4: Component Values to Primal Value



TABLES OF YIELD PERCENTAGES

Loin Primal Styles					
#1 - 1/4" Trimmed Loin				#4 - Bnls CC, Strap-on Loin	
#2 - 1/8" Trimmed Loin				#5 - Bnls CC, Strap-off Loin	
#3 - Bone-in CC, Tender-in Loin					
Loin Components	#1	#2	#3	#4	#5
1/4" Trimmed Loin	100.00%				
1/8" Trimmed Loin		95.20%			
Bone-in CC, Tender in			61.35%		
Bnls CC Strap-on				39.83%	
Bnls CC Strap-off					36.23%
Boneless Sirloin			9.41%	7.37%	7.37%
Blade Ends			15.43%		
Butt Tender			1.20%		
Tenderloin				4.43%	4.43%
Backribs				9.08%	9.08%
72% Trim			3.47%	16.28%	18.90%
42% Trim			5.03%	6.02%	7.00%
Fat		4.80%			
Bone			3.57%	16.37%	16.37%
Shrink	0.00%	0.00%	0.54%	0.62%	0.62%
Labor					
Total Percentage	100.00%	100.00%	100.00%	100.00%	100.00%

1/4" Trimmed Loin Primal to Untrimmed			
Component	%	Value	Total
1/4" Loin	81.60	97.82	79.83
T/Trace	5.86	27.00	1.58
Fat	5.86	15.24	0.89
Skin	6.68	19.50	1.30
Drop Loin	100.00		\$83.60

Butt Primal Styles			
#1 - 1/4" Trimmed Butt	#2 - 1/4" Trimmed steak ready Butt		
	#3 - 1/8" Trimmed steak ready Butt		
Butt Components	#1	#2	#3
1/4" Trim Butt	100.00%		
1/4" Trim steak ready Butt		84.34%	
1/8" Trim steak ready Butt			79.68%
72% Trim		15.66%	15.66%
Fat			4.66%
Shrink	0.00%		
Labor			
Total Percentage	100.00%	100.00%	100.00%

1/4" Trimmed Butt Primal to Untrimmed			
Component	%	Value	Total
1/4" Butt	85.13%	87.69	74.65
T/Trace	3.04%	27.00	0.82
Fat	3.80%	15.24	0.58
Skin	8.03%	3.93	0.32
Drop Butt	100.00%		\$76.37

Picnic Primal Styles		
#1 - SS Smkr Trim Picnic	#2 - Boneless Picnic Meat	
Picnic Components	#1	#2
SS Smoker Trim Picnic	75.87%	
Boneless Picnic Meat		59.36%
Picnic Cushion Meat		12.58%
72% Trim	7.22%	
42% Trim	4.92%	
Hocks	7.51%	
Fat	3.20%	8.99%
Skin	1.22%	1.65%
Bone		17.04%
Shrink	0.06%	0.38%
Labor		
Total Percentage	100.00%	100.00%

Sparerib Primal Styles		
#1 - Trimmed Sparerib Lgt		#2 - Trimmed Sparerib Med
Sparerib Components	#1	#2
Trimmed Sparerib	100.00%	100.00%
Shrink	0.00%	0.00%
Labor		
Total Percentage	100.00%	100.00%

Trimmed Sparerib Primal to Untrimmed			
Component	%	Value	Total
Ribs	96.60%	111.00	107.23
Fat	3.40%	15.24	0.52
Drop Rib	100.00%		\$107.74

Ham Primal Styles				
#1 - Trmd Selected Ham 20-23#'s		#3 - 4 Muscle Ham		
#2 - Trmd Selected Ham 23-27#'s		#4 - 5 Muscle Ham		
Ham Components	#1	#2	#3	#4
Trmd Selected Ham 20-23#	100.00%			
Trmd Selected Ham 23-27#		100.00%		
4 Muscle Ham			40.78%	
5 Muscle Ham				44.92%
Lite Butt				
Inner Shank			4.14%	
Outer Shank			3.92%	3.92%
72% Trim			19.95%	19.95%
42% Trim			7.34%	7.34%
Fat			5.30%	5.30%
Skin			7.06%	7.06%
Bone			10.82%	10.82%
Shrink	0.00%	0.00%	0.69%	0.69%
Labor				
Total Percentage	100.00%	100.00%	100.00%	100.00%

Belly Primal Styles		
#1 - Skin-on Belly 14-16#		#2 - Skin-on Belly 16-18#
Belly Components	#1	#2
Skin-on Belly	100.00%	100.00%
72% Trim		
42% Trim		
Fat		
Skin		
Shrink	0.00%	0.00%
Labor		
Total Percentage	100.00%	100.00%

Trimmed Belly Primal to Untrimmed			
Component	%	Value	Total
Belly	97.50%	92.50	90.19
42% Trim	2.50%	35.00	0.88
Drop Belly	100.00%		\$91.06

Jowl Primal Styles	
#1 - Skinned Jowl	
Jowl Components	#1
Skinned Jowl	80.45%
Skin	19.55%
Shrink	
Labor	
Total Percentage	100.00%

"Trimmed" to "Untrimmed" Primal Conversion	
Loin	81.60%
Butt	85.13%
Picnic	100.00%
Sparerib	96.60%
Ham	100.00%
Belly	97.50%
Jowl	100.00%

Primal Yield to Carcass	
Loin	25.34%
Butt	10.34%
Picnic	11.12%
Sparerib	4.49%
Ham	24.98%
Belly	16.02%
Jowl	1.56%
Neckbones	1.66%
Tails	0.23%
Front Feet	1.04%
Hind Feet	1.16%
Cut Loss	2.06%