

## Recovered Meat Products

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It is essential in the slaughter and fabrication of red meat that all protein sources be recovered at the highest possible value. There are numerous products on the market today that would classify as "recovered products," or products that have undergone a recovery process to add value and maximize economic returns from red meat slaughter and processing. Several of these products were on display during this session. The characteristics of these products are summarized in the accompanying table, with flow charts that outline their production.

Products were displayed that are the result of low-temperature rendering, including partially-defatted beef and pork fatty tissue, partially-defatted chopped beef and pork, and finely-textured beef and pork. High-fat beef and pork trimmings were subjected to low-temperature rendering to produce low-fat (8% to 16%) materials that have retained most of their functionality and, in some cases, much of the original lean meat color. Spray-dried beef broth with salt is a by-product of rendering operations. This product has potential in low-fat products due

to its water-binding ability and flavor profile, but is limited somewhat by its higher salt content.

Beef plasma protein is a very high-protein raw material that has been separated from beef blood. The functionality of this protein makes it suitable for a variety of meat applications. Its use is limited in part by the resistance of the American consumer to accept added-blood proteins in a product. Beef connective tissue is being produced on a very large scale in commercial mechanical desinewing operations. Connective tissue has been physically modified and incorporated into a variety of products, offering water-binding and textural-modifying properties. It is important that the value of this material be increased, as it is currently being rendered at a low recovery value. A much smaller amount of pork connective tissue is also being produced. The potential for its usage is similar to that in beef connective tissue. Both of these products are limited somewhat by their 20% to 30% fat content, and by the fact that there has yet to be policy established concerning their labeling.

**Table 1. Description of Recovered Proteins.**

	<i>PCT</i> <sup>a</sup>	<i>BCT</i> <sup>b</sup>	<i>FTB</i> <sup>c</sup>	<i>FTP</i> <sup>d</sup>	<i>SDBB</i> <sup>e</sup>	<i>BPP</i> <sup>f</sup>
Protein %	18-20	22-25	17-21	16-20	75-76	68-72
Fat %	30-32	21-24	6-10	6-10	<1	2.5
Moisture %	51-53	52-55	69-73	69-73	5-6	6.0
pH	6.3-6.5	6.2-6.4	6.4-6.5	6.4-6.5	6.1-6.2	9.0
Cost/lb	\$0.10	\$0.12-0.15	\$1.00	\$0.55	\$1.00	\$1.65
Salt %	—	—	—	—	15-20	—
Advantages	1	1,2,3	1,2,3	1	1,3,4,6	1,2,3,5

<sup>a</sup>Pork connective tissue

<sup>b</sup>Beef connective tissue

<sup>c</sup>Finely textured beef

<sup>d</sup>Finely textured pork

<sup>e</sup>Spray-dried beef broth with salt

<sup>f</sup>Beef plasma protein

Advantages: 1 = Lower cost 2 = Improved yields 3 = Texture modification  
4 = Water-binding 5 = Improved peelability 6 = Flavor enhancement

Products donated by AMPC, Inc., Beef Products, Inc., Excel, IBP, Inc., Monfort, Inc. and Omaha Edible Oils

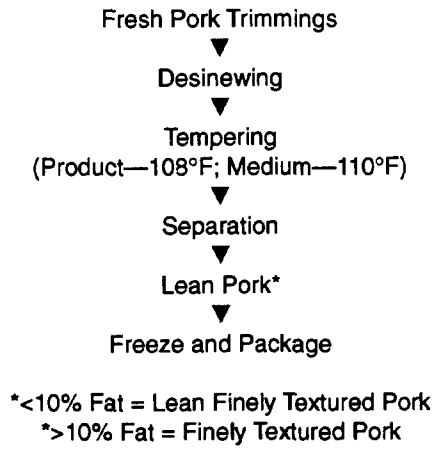
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**Finely Textured Pork—Flow Chart**



**Beef Plasma Protein—Flow Chart**

