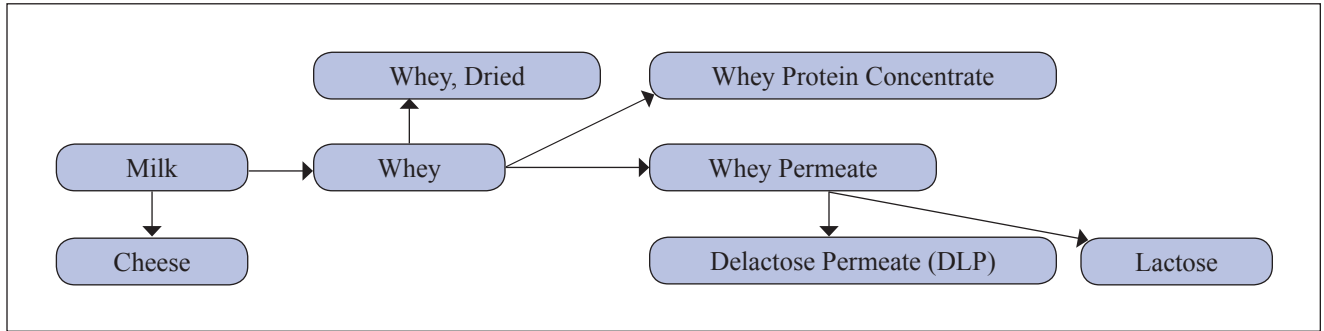


## Cheese Manufacturing Coproducts

The Midwest is the center of the milk processing industry with the largest concentration of cheese plants compared to other regions of the country. 90% of Wisconsin milk goes into cheese production.

Several coproducts are available to the animal feed industry from the cheese manufacturing industry. Below is a flow chart showing the coproducts produced.

### Cheese Process



We cannot rely solely on book values when incorporating coproducts into diets. Below are examples of whey permeate and DLP from several processors in Wisconsin. The purpose of this table is to show the variation from plant to plant.

*Routine analysis is recommended due to the variation that exists with coproducts.*

### Nutrient value of selected Midwest cheese processors

Proximate Analysis	Typical % dry basis									
	DLP	DLP	Whey Perm	Whey Perm	Whey Perm	Whey Perm	Whey Perm	Whey Perm	Whey Perm	Sweet Energy
	Plant A	Plant B	Plant C	Plant D	Plant E	Plant F	Plant G	Plant H	Plant I	Plant J
Solids, total %	35.5	36.2	21.6	24	24	33	25	40.5	23	40.1
Protein (Nx6.25)	8.7	11.0	2.8	3.1	3.0	2.9	5.9	8.4	6	6.2
Ash	19	26	8.5	8.4	8.6	8.1	7.7	21.3	6.7	
Na	1.8	3.1	0.7	0.72	1.82	.70	1.33	2.15	0.61	1.22
Potassium	6.2	7.6	2.6	2.22	4.1	2.54	2.62	6	2.61	4.47
Magnesium	0.3	0.4	0.14	0.15	0.25	0.14	0.27	0.3	0.22	0.2
Calcium	1.2	1.6	0.54	0.5	0.58	0.64	0.57	1.23	0.78	0.62
Phosphorus	1.7	2	0.68	0.63	1.8	0.8	0.49	1.78	0.65	1.1
Chloride	4	6.2	1.99	1.84	2.9	1.34	2.59	4.91	1.83	3.39
Fat	0	0	0.09	0.13	0.08	0.2	0	0		
Lactose	62.5	60	87	88.3	88	85	85	50	87	81.3

