

# Marketing Service

BULLETIN

## How Do I Know My Pay Price When Component Prices Look Like This?

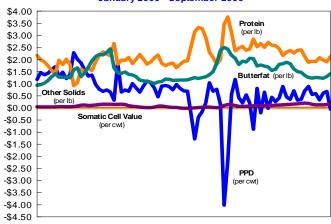
One Mill fror eac "pa stra ederal Milk

Once upon a time, in a Federal Milk Order system far different from today, the calculation of each dairy farmers monthly "pay price" was a relatively straightforward task. Each

Federal Milk Order (FMO) announced one producer pay price in the era prior to the advent of multiple component pricing. This

Uniform or "Blend" Price was applicable to all producer milk with only one adjustment - the Butterfat Differential. This adjustment was applicable to each producer's per hundred-weight price based upon the butterfat content of milk marketed. Thus, each producer could readily make revenue comparisons by simply examining monthly Uniform Prices (adjusted for butterfat content) in this bygone era.



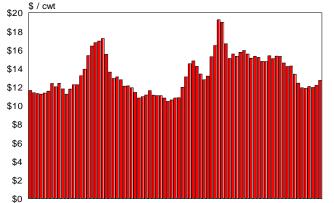


Congressionally-mandated FMO reforms were implemented effective January 1, 2000. Consolidation and reduction of FMOs from 31 to 11 was one major feature of this reform<sup>1</sup>. Another significant feature was the elimination of per hundredweight Uniform Prices adjusted by the Butterfat Differential. This pricing was replaced with a system based on per pound prices for milk components. Four of the post-reform FMOs implemented a system that priced just two components - skim and butterfat - while the remaining seven orders implemented a multiple component pricing system. Producer milk components priced on a per pound basis in these 7 FMOs included butterfat, protein, and other solids. All seven of these FMOs also included a Producer Price Differential (PPD) based on total milk volume marketed, and four incorporated an adjustment based on the somatic cell count of producer milk.

The Central FMO is one of the four post-reform orders that implemented multiple component pricing with a somatic cell adjustment factor. Post-reform revenue calculations for Central order producers must include all priced components to accurately reflect total revenue generated. Confusion can result since prices for the various components often run counter to one another, as depicted by the top graph on this page. The bottom graph on this page illustrates the effective pay price for a "typical" producer² using all the component prices depicted above.

What about the PPD ??? The PPD represents, on a per hundredweight basis, the total dollars accumulated by the marketwide pool minus the amount paid to producers for their priced components. The value of milk used in Class I is the largest contributor to the PPD. Although the PPD tends to receive the most attention, it is only one part of a

Effective Value Of Producer Milk @3.67% BF; 3.10% Protein; 5.70% OS; 330,000 SCC



January 2000 - September 2006

producer's total revenue equation. Over the past 81 months the PPD's proportion of a "typical" producer's total revenue averaged less than 5% (see the table on page 5).

The graphics and tables in this bulletin illustrate how the PPD relates to dairy producers' FMO pay price. Examining only one particular milk check component may yield false impressions. Often when the PPD declines total revenue increases due to

- 1 The number of FMOs was further reduced to 10 in April 2004 with the termination of the Western FMO.
- 2 A "typical" producer is defined as follows: Monthly marketings -- 200,000 pounds; Butterfat test -- 3.67%; Protein test -- 3.10%; Other Solids test -- 5.70%; Somatic Cell Count -- 330,000.



	5 " ( )	5	Other	000	222	Effective
	<u>Butterfat</u>	<u>Protein</u>	<u>Solids</u>	<u>SCC</u>	PPD	<u>Price</u>
Jan 2000	0.9366	2.1677	0.0503	0.00058	1.18	11.63
Feb Mar	0.9588	1.9849	0.0432 0.0424	0.00055 0.00055	1.46 1.37	11.39 11.30
Apr	1.0191 1.1352	1.9166 1.7399	0.0424	0.00055	1.43	11.23
May	1.2854	1.5514	0.0403	0.00055	1.59	11.36
Jun	1.4128	1.4278	0.0438	0.00056	1.70	11.57
Jul	1.2691	1.9726	0.0557	0.00061	1.29	12.39
Aug Sep	1.2659 1.2707	1.7952 2.0137	0.0577 0.0502	0.00058 0.00062	1.48 1.21	12.03 12.41
Oct	1.2444	1.8028	0.0302	0.00058	1.38	11.81
Nov	1.5745	0.9149	0.0565	0.00051	2.28	11.23
Dec	1.6534	1.0378	0.0829	0.00054	2.01	11.78
Jan 2001	1.2896	1.6181	0.1120	0.00056	1.86	12.26
Feb Mar	1.4626 1.6820	1.4951 1.6498	0.1199 0.1039	0.00057 0.00064	1.55 1.32	12.25 13.21
Apr	1.9483	1.5443	0.1039	0.00067	1.36	13.21
May	2.1191	1.9108	0.1229	0.00076	0.97	15.39
Jun	2.2089	2.1670	0.1409	0.00081	0.77	16.42
Jul	2.1883	2.3175	0.1510	0.00083	0.68	16.78
Aug Sep	2.2976 2.4449	2.2188 2.1647	0.1535 0.1520	0.00083 0.00085	0.74 0.66	16.95 17.23
Oct	1.6526	2.6664	0.1482	0.00078	0.32	15.52
Nov Dec	1.4500 1.4322	1.8045 1.9782	0.1470 0.1517	0.00062 0.00064	1.86 0.66	13.62 12.92
Jan 2002 Feb	1.4846 1.3817	1.9660 2.0884	0.1392 0.0965	0.00065 0.00064	0.74 0.69	13.09 12.79
Mar	1.3638	1.8342	0.0688	0.00060	1.01	12.10
Apr	1.2890	2.0109	0.0566	0.00062	0.83	12.13
May	1.1433	2.2097	0.0374	0.00062	0.65	11.92
Jun	1.1211	2.0148	0.0247	0.00059	0.91	11.42
Jul Aug	1.0929 1.0701	1.8095 1.9021	0.0150 0.0177	0.00055 0.00056	1.11 1.04	10.83 10.97
Sep	1.0099	2.0646	0.0367	0.00057	0.82	11.15
Oct	1.0726	2.1839	0.0755	0.00060	0.46	11.61
Nov	1.0923	1.8469	0.0850	0.00056	0.90	11.13
Dec	1.1922	1.7506	0.0584	0.00056	0.93	11.08
Jan 2003	1.1856	1.8164	0.0339	0.00057	0.89	11.08
Feb Mar	1.1373 1.1459	1.8538 1.6648	0.0240 0.0206	0.00056 0.00054	0.75 0.97	10.82
Apr	1.1503	1.8006	-0.0008	0.00055	0.81	10.62
May	1.1512	1.9275	-0.0144	0.00057	0.70	10.83
Jun	1.1576	1.9434	-0.0200	0.00057	0.69	10.86
Jul	1.2055	2.5480	-0.0124	0.00067	-0.29	11.97
Aug Sep	1.2514 1.2218	3.1438 3.3180	0.0026 0.0170	0.00077 0.00080	-1.28 -0.38	13.09 14.51
Oct	1.2553	3.2815	0.0311	0.00080	-0.16	14.82
Nov	1.2877	2.9267	0.0368	0.00075	0.20	14.23
Dec	1.3688	2.2997	0.0362	0.00066	1.04	13.41
Jan 2004	1.4978	2.0875	0.0217	0.00065	0.69	12.79
Feb Mar	1.8518 2.3813	1.7911 2.0133	0.0090 0.0234	0.00066 0.00078	0.77 0.14	13.18 15.27
Apr	2.5013	3.4465	0.0234	0.00103	-4.02	16.46
May	2.4282	3.7639	0.1444	0.00106	-2.18	19.24
Jun	2.1768	3.1086	0.1339	0.00092	0.55	18.96
Jul Aug	2.0543 1.7941	2.3625	0.1048 0.0676	0.00078 0.00076	1.18	16.66 15.07
Sep	1.9354	2.4663 2.5431	0.0589	0.00076	0.42 0.21	15.55
Oct	1.9020	2.3814	0.0677	0.00076	0.54	15.31
Nov	2.0489	2.4297	0.0800	0.00079	0.21	15.74
Dec	2.0366	2.8486	0.0858	0.00086	-0.88	15.93
Jan 2005	1.7330	2.5300	0.0899	0.00076	0.81	15.55
Feb	1.7754	2.6613	0.0915	0.00079	-0.20	15.11
Mar Apr	1.7279 1.6964	2.5019 2.7055	0.0951 0.1020	0.00075 0.00078	0.65 -0.02	15.31 15.19
May	1.5475	2.5965	0.1043	0.00074	0.44	14.77
Jun	1.5932	2.5741	0.1139	0.00074	0.26	14.75
Jul	1.8007	2.4558	0.1240	0.00076	0.41	15.36
Aug Sep	1.8246 1.8872	2.1619 2.3009	0.1317 0.1411	0.00072 0.00075	0.89 0.45	15.05 15.33
Oct	1.8256	2.3780	0.1491	0.00075	0.45	15.29
Nov Dec	1.6114 1.5036	2.2724 2.3846	0.1606 0.1702	0.00070 0.00070	0.71 0.32	14.59 14.21
Jan 2006 Feb	1.4684 1.3469	2.3994 2.1220	0.1881 0.1999	0.00069 0.00063	0.36 0.71	14.27 13.38
Mar	1.2596	1.8836	0.1874	0.00058	0.89	12.43
Apr	1.2343	1.9238	0.1508	0.00058	0.56	11.92
May Jun	1.2582	1.9115	0.1251	0.00058 0.00061	0.59 0.33	11.86 12.06
Jun Jul	1.2436 1.2228	2.0790 1.9807	0.1255 0.1257	0.00061	0.33	12.06
Aug	1.3008	1.9050	0.1416	0.00059	0.68	12.18
Sep	1.4191	2.1346	0.1649	0.00065	-0.06	12.72

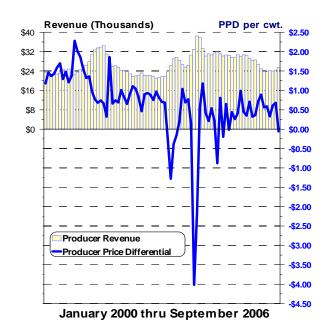
changes in the other priced components. For example, the largest monthly decrease in the PPD was \$4.16 between March and April 2004. The corresponding change in total revenue for our "typical" producer was an increase of over \$2,300. Moreover, total revenue for our "typical" producer reached its all-time high in May 2004 with an effective price of \$19.24, even though the PPD was -\$2.18. Circumstances such as these make it necessary to understand how each of the components in a milk check are priced and how these prices relate to each other. These relationships are illustrated by the graphics and tables in this bulletin.

Central FMO Component Prices: The table on this page provides historical data for all Central FMO producer component prices since the inception of federal milk order reform in January 2000. Yearly high and low PPD and effective prices, as well as the overall high and low prices, have been highlighted. These component prices can be used to calculate a producer's total revenue for any month. The revenue generated by these prices for our "typical" producer is presented in the table on page 5, and each priced components proportion of total revenue is depicted in the graph at the right (page 3).

A sample format used in calculating total producer revenue is provided below the graph on page 3. The graph below depicts movements in the PPD versus total revenue for our "typical" producer on the Central FMO from January 2000 through September 2006. As previously noted, changes in the PPD and total revenue are not highly correlated and often move in opposite directions.

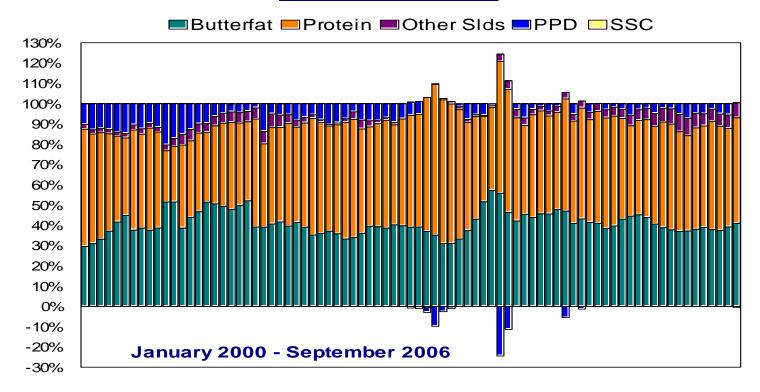
#### **Central FMO Comparisons**

Producer Revenue\* versus the Producer Price Differential



<sup>\*</sup> Revenue calculations assumes the following: 200,000 lbs marketed per month; Butterfat test: 3.67%; Protein test: 3.10%; Other Solids test: 5.70%; Somatic Cell Count: 330,000.

### Component Values As A Percent Of 100 Lbs. Producer Milk At 3.67% BF, 3.10% Protein, 5.70% OS, 330,000 SCC <u>Central Federal Order</u>



#### A Look At How You Can Calculate Your Pay Price

Assume a dairy producer with:

200,000 pounds of marketings 3.67% Butterfat test 3.10% Protein test 5.70% Other Solids test Producer Price Differential (PPD) 330,000 Somatic Cell Count <u>Sep '06 Prices</u>: \$1.4191 / lb \$2.1346 / lb

\$0.1649 / lb

-\$0.06 / cwt

\$0.00065 / 100,000 cells / cwt

Component	Avg <u>Test</u>		lundred <u>Weights</u>				bs. onent	t Co	Sep '06 mponent <u>Prices</u>			Total <u>Value</u>
Butterfat	3.67	Х	2,000	)	=	7,	340	Χ	\$1.4191	=	\$10	,416.19
Protein	3.10	Χ	2,000	)	=	6,	200	X	\$2.1346	=	\$13	,234.52
Other Solids	5.70	Χ	2,000	)	=	11,	400	X	\$0.1649	=	\$ 1	,879.86
PPD			2,000	)				Х	-\$0.06	=	-\$	120.00
Somatic Cell Count (Calculate Adjuster)	330,000											
(350-330=20)	20 x	\$0.	.00065	=	\$0.0	01	X	2,000		=	\$	20.00

Total Federal Order Value Of Milk Marketed : September 2006 Effective Price Per Hundredweight \$25,430.57 \$12.72

Prices For Different Months

May Be Found In The Table On

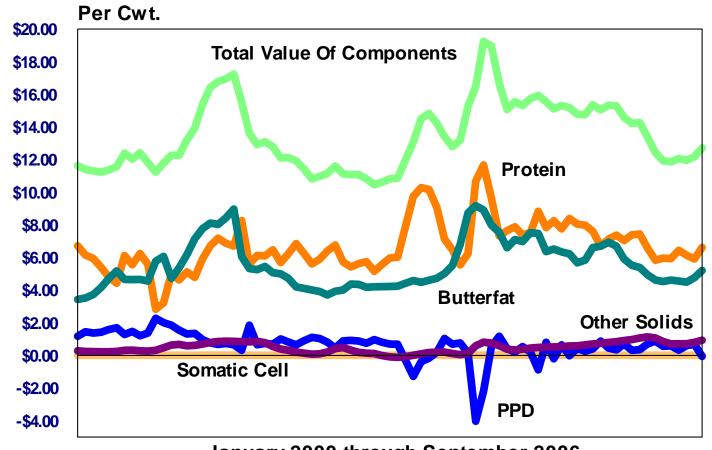
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Note: The Central order September 2006 Statistical Uniform Price was announced at \$12.23. This price is published at 3.5% BF, 2.99% Protein, and 5.69% Other Solids. Individual producers should be aware their price can vary from the announced Statistical Uniform Price. In the above example, the price is 49¢ above the published price.

# Central Order Value Of Milk Marketed By Month <sup>1</sup> 200,000 Pounds Marketed with 3.67% BF, 3.10% Protein, 5.70% Other Solids, & 330,000 SCC

Monthly calculations were performed for our "typical" Central FMO producer to arrive at the values in the table on page 5. These calculations use the prices found in the table on page two and the formula at the bottom of page three. This table may be useful in examining the relationships between actual component prices (page 2) as they compare with each other in determining the total component value to the producer (table on page 5). Highs for each value are highlighted in blue and lows in red. The PPD value during the last 81 months was always substantially less than either the butterfat or protein values, with the exception of November 2000 when it's value was 80.4% of the protein value. Since January 2000 the PPD value has averaged less than 5% of total producer revenue for our "typical" producer. In comparison, protein values accounted for nearly 50% of total revenue while butterfat values comprised over 41%. Moreover, total producer revenue increased during numerous months when the PPD decreased, and vice-versa. Despite these facts, the PPD remains the most closely watched, quoted, and compared producer price by many in the dairy industry, especially when the value is negative. The graph below illustrates the dollar values found in the table at the right (page 5) on a per hundredweight basis.

Note: The PPDs used in this illustration are for milk marketed at plants located in Jackson or St. Louis County Missouri (\$2.00 location differential). The PPD applicable to milk delivered to plants in other locations should be adjusted for the location differential in each locality.



### Value Of Milk Marketed By Month : Central FMO

	value	OI WIIIK Wa	INCICU	by Month	. Centre		
			Other			Total	Effective
	<b>Butterfat</b>	<u>Protein</u>	<b>Solids</b>	PPD	<u>scc</u>	<u>Value</u>	<u>Price</u>
Jan 2000	\$6,874.64	\$13,439.74	\$573.42	\$2,360.00	\$20.00	\$23,267.80	\$11.63
Feb	7,037.59	12,306.38	492.48	2,920.00	20.00	22,776.45	11.39
Mar	7,480.19	11,882.92	483.36	2,740.00	20.00	22,606.47	11.30
Apr	8,332.37	10,787.38	465.12	2,860.00	20.00	22,464.87	11.23
May	9,434.84	9,618.68	459.42	3,180.00	20.00	22,712.94	11.36
Jun	10,369.95 9,315.19	8,852.36 12,230.12	499.32 634.98	3,400.00	20.00 20.00	23,141.63 24,780.29	11.57
Jul Aug	9,291.71	11,130.24	657.78	2,580.00 2,960.00	20.00	24,059.73	12.39 12.03
Sep	9,326.94	12,484.94	572.28	2,420.00	20.00	24,824.16	12.41
Oct	9,133.90	11,177.36	536.94	2,760.00	20.00	23,628.20	11.81
Nov	11,556.83	5,672.38	644.10	4,560.00	20.00	22,453.31	11.23
Dec	12,135.96	6,434.36	945.06	4,020.00	20.00	23,555.38	11.78
Jan 2001	9,465.66	10,032.22	1,276.80	3,720.00	20.00	24,514.68	12.26
Feb Mar	10,735.48 12,345.88	9,269.62 10,228.76	1,366.86 1,184.46	3,100.00 2,640.00	20.00 20.00	24,491.96 26,419.10	12.25 13.21
Apr	14,300.52	9,574.66	1,232.34	2,720.00	20.00	27,847.52	13.92
May	15,554.19	11,846.96	1,401.06	1,940.00	40.00	30,782.21	15.39
Jun	16,213.33	13,435.40	1,606.26	1,540.00	40.00	32,834.99	16.42
Jul	16,062.12	14,368.50	1,721.40	1,360.00	40.00	33,552.02	16.78
Aug	16,864.38	13,756.56	1,749.90	1,480.00	40.00	33,890.84	16.95
Sep Oct	17,945.57 12,130.08	13,421.14 16,531.68	1,732.80 1,689.48	1,320.00 640.00	40.00 40.00	34,459.51 31,031.24	17.23 15.52
Nov	10,643.00	11,187.90	1,675.80	3,720.00	20.00	27,246.70	13.62
Dec	10,512.35	12,264.84	1,729.38	1,320.00	20.00	25,846.57	12.92
Jan 2002	10,896.96	12,189.20	1,586.88	1,480.00	20.00	26,173.04	13.09
Feb	10,141.68	12,948.08	1,100.10	1,380.00	20.00	25,589.86	12.79
Mar	10,010.29	11,372.04	784.32	2,020.00	20.00	24,206.65	12.10
Apr	9,461.26 8,391.82	12,467.58 13,700.14	645.24 426.36	1,660.00 1,300.00	20.00 20.00	24,254.08 23,838.32	12.13 11.92
May Jun	8,228.87	12,491.76	281.58	1,820.00	20.00	23,836.32	11.42
Jul	8,021.89	11,218.90	171.00	2,220.00	20.00	21,651.79	10.83
Aug	7,854.53	11,793.02	201.78	2,080.00	20.00	21,949.33	10.97
Sep	7,412.67	12,800.52	418.38	1,640.00	20.00	22,291.57	11.15
Oct	7,872.88	13,540.18	860.70	920.00	20.00	23,213.76	11.61
Nov	8,017.48	11,450.78	969.00	1,800.00	20.00	22,257.26	11.13
Dec Jan 2003	8,750.75 8,702.30	10,853.72 11,261.68	665.76 386.46	1,860.00 1,780.00	20.00 20.00	22,150.23 22,150.44	11.08 11.08
Feb	8,347.78	11,493.56	273.60	1,500.00	20.00	21,634.94	10.82
Mar	8,410.91	10,321.76	234.84	1,940.00	20.00	20,927.51	10.46
Apr	8,443.20	11,163.72	-9.12	1,620.00	20.00	21,237.80	10.62
May	8,449.81	11,950.50	-164.16	1,400.00	20.00	21,656.15	10.83
Jun	8,496.78	12,049.08	-228.00	1,380.00	20.00	21,717.86	10.86
Jul Aug	8,848.37 9,185.28	15,797.60 19,491.56	-141.36 29.64	-580.00 -2,560.00	20.00 40.00	23,944.61 26,186.48	11.97 13.09
Sep	8,968.01	20,571.60	193.80	-760.00	40.00	29,013.41	14.51
Oct	9,213.90	20,345.30	354.54	-320.00	40.00	29,633.74	14.82
Nov	9,451.72	18,145.54	419.52	400.00	40.00	28,456.78	14.23
Dec	10,046.99	14,258.14	412.68	2,080.00	20.00	26,817.81	13.41
Jan 2004	10,993.85	12,942.50 11,104.82	247.38	1,380.00	20.00	25,583.73	12.79
Feb Mar	13,592.21 17,478.74	12,482.46	102.60 266.76	1,540.00 280.00	20.00 40.00	26,359.63 30,547.96	13.18 15.27
Apr	18,359.54	21,368.30	1,187.88	-8,040.00	40.00	32,915.72	16.46
May	17,821.52	23,336.18	1,646.16	-4,360.00	40.00	38,483.86	19.24
Jun	15,977.71	19,273.32	1,526.46	1,100.00	40.00	37,917.49	18.96
Jul	15,078.56	14,647.50	1,194.72	2,360.00	40.00	33,320.78	16.66
Aug	13,192.99	15,291.06 15,767.22	770.64	840.00	40.00	30,134.69	15.07
Sep Oct	14,205.84 13,960.68	15,767.22	671.46 771.78	420.00 1,080.00	40.00 40.00	31,104.52 30,617.14	15.55 15.31
Nov	15,038.93	15,064.14	912.00	420.00	40.00	31,475.07	15.74
Dec	14,948.64	17,661.32	978.12	-1,760.00	40.00	31,868.08	15.93
Jan 2005	12,720.22	15,686.00	1,024.86	1,620.00	40.00	31,091.08	15.55
Feb	13,031.44	16,500.06	1,043.10	-400.00	40.00	30,214.60	15.11
Mar	12,682.79	15,511.78	1,084.14	1,300.00	40.00	30,618.71	15.31
Apr May	12,451.58 11,358.65	16,774.10 16,098.30	1,162.80 1,189.02	-40.00 880.00	40.00 20.00	30,388.48 29,545.97	15.19 14.77
Jun	11,694.09	15,959.42	1,298.46	520.00	20.00	29,491.97	14.75
Jul	13,217.14	15,225.96	1,413.60	820.00	40.00	30,716.70	15.36
Aug	13,392.56	13,403.78	1,501.38	1,780.00	20.00	30,097.72	15.05
Sep	13,852.05	14,265.58	1,608.54	900.00	40.00	30,666.17	15.33
Oct	13,399.90	14,743.60	1,699.74	700.00	40.00	30,583.24	15.29
Nov Dec	11,827.68 11,036.42	14,088.88 14,784.52	1,830.84 1,940.28	1,420.00 640.00	20.00 20.00	29,187.40 28,421.22	14.59 14.21
Jan 2006	10,778.06	14,876.28	2,144.34	720.00	20.00	28,538.68	14.27
Feb	9,886.25	13,156.40	2,278.86	1,420.00	20.00	26,761.51	13.38
Mar	9,245.46	11,678.32	2,136.36	1,780.00	20.00	24,860.14	12.43
Apr	9,059.76	11,927.56	1,719.12	1,120.00	20.00	23,846.44	11.92
May	9,235.19	11,851.30	1,426.14	1,180.00	20.00	23,712.63	11.86
Jun Jul	9,128.02 8,975.35	12,889.80 12,280.34	1,430.70 1,432.98	660.00 1,220.00	20.00 20.00	24,128.52 23,928.67	12.06 11.96
Aug	9,547.87	12,280.34	1,614.24	1,360.00	20.00	24,353.11	12.18
Sep	10,416.19	13,234.52	1,879.86	-120.00	20.00	25,430.57	12.72
81-Month Total	\$902,274.71	\$1,086,062.06	\$78,339.66	\$105,060.00	\$2,160.00	\$2,173,896.43	\$13.42
	(41.50%)	(49.96%)	(3.60%)	(4.83%)	(0.10%)	(100.00%)	
			Page	5			

Page 5

	Statistical Uniform Price		Produce Differe		Class I Utilization		
	Sep '06	<u>Aug '06</u>	<u>Sep '06</u>	Aug '06	<u>Sep '06</u>	<u> Aug '06</u>	
Northeast	13.43	13.06	1.14	2.00	52.09	48.80	
Appalachian	13.63	13.51			73.53	74.25	
Florida	14.70	14.65			88.52	88.32	
Southeast	13.68	13.39			66.34	66.62	
Upper Midwest	12.37	11.43	0.08	0.37	20.16	16.06	
Central	12.23	11.74	-0.06	0.68	45.97	31.57	
Mideast	12.40	11.98	0.11	0.92	45.93	40.97	
Pacific Northwest	11.89	11.48	-0.40	0.42	39.05	26.11	
Southwest	13.20	12.66	0.91	1.60	40.76	39.24	
Arizona-Las Vegas	12.76	12.15			46.17	45.95	

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