

The Effect on the Actual Overbase Price When Various Percentages
of Class 4a Milk are Pooled From January 1998 to August 2003

	Percent of Class 4a Pooled					
	<u>Actual</u>	<u>90%</u>	<u>75%</u>	<u>50%</u>	<u>25%</u>	<u>0%</u>
January 1998	\$12.49	\$12.50	\$12.52	\$12.57	\$12.62	\$12.70
February	\$12.88	\$12.87	\$12.87	\$12.86	\$12.84	\$12.83
March	\$12.49	\$12.47	\$12.48	\$12.44	\$12.42	\$12.39
April	\$12.30	\$12.32	\$12.29	\$12.24	\$12.18	\$12.10
May	\$12.21	\$12.20	\$12.14	\$12.02	\$11.89	\$11.71
June	\$13.33	\$13.36	\$13.27	\$13.15	\$13.02	\$12.86
July	\$13.83	\$13.83	\$13.77	\$13.65	\$13.52	\$13.37
August	\$15.14	\$15.16	\$15.11	\$15.03	\$14.94	\$13.83
September	\$16.04	\$16.01	\$15.91	\$15.71	\$15.49	\$15.22
October	\$16.94	\$16.96	\$16.92	\$16.85	\$16.76	\$16.65
November	\$16.12	\$16.20	\$16.26	\$16.38	\$16.51	\$16.66
December	\$15.94	\$16.05	\$16.17	\$16.41	\$16.70	\$17.05
January 1999	\$14.76	\$14.84	\$14.91	\$15.07	\$15.25	\$15.48
February	\$13.16	\$13.21	\$13.24	\$13.30	\$13.38	\$13.48
March	\$13.17	\$13.23	\$13.28	\$13.37	\$13.49	\$13.64
April	\$11.54	\$11.58	\$11.60	\$11.64	\$11.69	\$11.75
May	\$11.40	\$11.42	\$11.42	\$11.41	\$11.39	\$11.39
June	\$12.14	\$12.15	\$12.10	\$12.02	\$11.92	\$11.81
July	\$12.71	\$12.76	\$12.77	\$12.80	\$12.84	\$12.88
August	\$14.45	\$14.54	\$14.62	\$14.78	\$14.98	\$15.21
September	\$13.63	\$13.69	\$13.75	\$13.85	\$13.97	\$14.11
October	\$12.82	\$12.90	\$12.96	\$13.07	\$13.22	\$13.39
November	\$12.08	\$12.13	\$12.18	\$12.26	\$12.36	\$12.50
December	\$10.43	\$10.45	\$10.44	\$10.42	\$10.40	\$10.36
January 2000	\$10.05	\$10.06	\$10.04	\$9.98	\$9.92	\$9.84
February	\$9.95	\$9.94	\$9.89	\$9.81	\$9.71	\$9.58
March	\$10.03	\$10.03	\$9.99	\$9.88	\$9.76	\$9.61
April	\$10.36	\$10.36	\$10.30	\$10.20	\$10.08	\$9.93
May	\$10.55	\$10.53	\$10.46	\$10.33	\$10.18	\$9.98
June	\$11.08	\$11.07	\$11.02	\$10.92	\$10.79	\$10.65
July	\$11.30	\$11.31	\$11.30	\$11.24	\$11.19	\$11.12
August	\$11.31	\$11.33	\$11.31	\$11.27	\$11.22	\$11.16
September	\$11.61	\$11.64	\$11.63	\$11.61	\$11.59	\$11.57
October	\$10.59	\$10.59	\$10.55	\$10.45	\$10.34	\$10.21
November	\$10.98	\$10.95	\$10.84	\$10.63	\$10.38	\$10.08
December	\$11.29	\$11.27	\$11.18	\$11.02	\$10.83	\$10.59

	<u>Actual</u>	<u>90%</u>	<u>75%</u>	<u>50%</u>	<u>25%</u>	<u>0%</u>
January 2001	\$11.03	\$11.00	\$10.96	\$10.89	\$10.80	\$10.70
February	\$11.34	\$11.30	\$11.25	\$11.13	\$11.01	\$10.85
March	\$12.19	\$12.16	\$12.10	\$12.01	\$11.89	\$11.77
April	\$12.95	\$12.91	\$12.85	\$12.73	\$12.59	\$12.41
May	\$14.00	\$13.98	\$13.95	\$13.88	\$13.81	\$13.71
June	\$14.76	\$14.75	\$14.74	\$14.70	\$14.67	\$14.63
July	\$14.65	\$14.66	\$14.67	\$14.69	\$14.72	\$14.75
August	\$15.00	\$15.00	\$15.01	\$15.03	\$15.04	\$15.07
September	\$15.26	\$15.25	\$15.25	\$15.24	\$15.24	\$15.23
October	\$12.98	\$13.00	\$13.02	\$13.08	\$13.14	\$13.22
November	\$11.92	\$11.92	\$11.94	\$11.97	\$12.00	\$12.06
December	\$11.22	\$11.21	\$11.20	\$11.18	\$11.16	\$11.14
January 2002	\$11.46	\$11.46	\$11.46	\$11.46	\$11.47	\$11.47
February	\$10.81	\$10.80	\$10.79	\$10.78	\$10.76	\$10.74
March	\$10.66	\$10.65	\$10.63	\$10.60	\$10.57	\$10.53
April	\$10.70	\$10.70	\$10.69	\$10.69	\$10.69	\$10.69
May	\$10.35	\$10.35	\$10.36	\$10.37	\$10.39	\$10.41
June	\$9.88	\$9.87	\$9.86	\$9.83	\$9.82	\$9.78
July	\$9.57	\$9.56	\$9.53	\$9.49	\$9.44	\$9.38
August	\$9.80	\$9.80	\$9.79	\$9.78	\$9.77	\$9.75
September	\$9.88	\$9.88	\$9.88	\$9.89	\$9.90	\$9.92
October	\$10.14	\$10.14	\$10.14	\$10.14	\$10.15	\$10.15
November	\$9.70	\$9.69	\$9.67	\$9.64	\$9.58	\$9.53
December	\$9.75	\$9.74	\$9.72	\$9.70	\$9.66	\$9.61
January 2003	\$9.72	\$9.72	\$9.73	\$9.74	\$9.75	\$9.76
February	\$9.40	\$9.40	\$9.40	\$9.42	\$9.43	\$9.45
March	\$9.22	\$9.21	\$9.20	\$9.18	\$9.16	\$9.12
April	\$9.32	\$9.32	\$9.31	\$9.28	\$9.25	\$9.22
May	\$9.34	\$9.34	\$9.33	\$9.31	\$9.29	\$9.27
June	\$9.50	\$9.49	\$9.49	\$9.48	\$9.47	\$9.45
July	\$11.05	\$11.08	\$11.12	\$11.20	\$11.30	\$11.41
August	\$12.26	\$12.31	\$12.40	\$12.59	\$12.80	\$13.04

The Effect on the Actual Overbase Price When Various Percentages of Class 4b Milk are Pooled From January 1998 to August 2003

	Percent of Class 4b Pooled					
	<u>Actual</u>	<u>90%</u>	<u>75%</u>	<u>50%</u>	<u>25%</u>	<u>0%</u>
January 1998	\$12.49	\$12.52	\$12.52	\$12.52	\$12.53	\$12.53
February	\$12.88	\$12.93	\$12.96	\$13.02	\$13.09	\$13.18
March	\$12.49	\$12.54	\$12.58	\$12.66	\$12.75	\$12.87
April	\$12.30	\$12.39	\$12.46	\$12.63	\$12.84	\$13.11
May	\$12.21	\$12.32	\$12.44	\$12.70	\$13.02	\$13.46
June	\$13.33	\$13.37	\$13.39	\$13.44	\$13.49	\$13.58
July	\$13.83	\$13.85	\$13.83	\$13.78	\$13.74	\$13.68
August	\$15.14	\$15.19	\$15.22	\$15.28	\$15.36	\$15.47
September	\$16.04	\$16.11	\$16.16	\$16.29	\$16.45	\$16.67
October	\$16.94	\$17.00	\$17.06	\$17.15	\$17.28	\$17.45
November	\$16.12	\$16.14	\$16.09	\$15.99	\$15.87	\$15.71
December	\$15.94	\$15.92	\$15.83	\$15.67	\$15.46	\$15.17
January 1999	\$14.76	\$14.81	\$14.83	\$14.89	\$14.96	\$15.04
February	\$13.16	\$13.26	\$13.40	\$13.65	\$13.97	\$14.40
March	\$13.17	\$13.26	\$13.37	\$13.59	\$13.87	\$14.22
April	\$11.54	\$11.57	\$11.58	\$11.59	\$11.61	\$11.62
May	\$11.40	\$11.45	\$11.50	\$11.60	\$11.72	\$11.88
June	\$12.14	\$12.19	\$12.21	\$12.26	\$12.32	\$12.42
July	\$12.71	\$12.69	\$12.61	\$12.45	\$12.23	\$11.95
August	\$14.45	\$14.39	\$14.22	\$13.89	\$13.46	\$12.88
September	\$13.63	\$13.60	\$13.51	\$13.32	\$13.08	\$12.75
October	\$12.82	\$12.90	\$12.99	\$13.14	\$13.36	\$13.63
November	\$12.08	\$12.20	\$12.35	\$12.65	\$13.02	\$13.51
December	\$10.43	\$10.49	\$10.55	\$10.65	\$10.78	\$10.95
January 2000	\$10.05	\$10.10	\$10.13	\$10.19	\$10.28	\$10.38
February	\$9.95	\$9.99	\$10.03	\$10.12	\$10.23	\$10.37
March	\$10.03	\$10.09	\$10.15	\$10.24	\$10.37	\$10.53
April	\$10.36	\$10.44	\$10.51	\$10.67	\$10.87	\$11.14
May	\$10.55	\$10.64	\$10.74	\$10.93	\$11.19	\$11.55
June	\$11.08	\$11.15	\$11.23	\$11.40	\$11.61	\$11.90
July	\$11.30	\$11.37	\$11.42	\$11.52	\$11.66	\$11.83
August	\$11.31	\$11.37	\$11.43	\$11.54	\$11.70	\$11.90
September	\$11.61	\$11.66	\$11.68	\$11.72	\$11.78	\$11.86
October	\$10.59	\$10.70	\$10.81	\$11.05	\$11.35	\$11.76
November	\$10.98	\$11.12	\$11.29	\$11.64	\$12.09	\$12.71
December	\$11.29	\$11.41	\$11.56	\$11.85	\$12.25	\$12.81

	<u>Actual</u>	<u>90%</u>	<u>75%</u>	<u>50%</u>	<u>25%</u>	<u>0%</u>
January 2001	\$11.03	\$11.11	\$11.24	\$11.52	\$11.88	\$12.37
February	\$11.34	\$11.40	\$11.50	\$11.70	\$11.97	\$12.34
March	\$12.19	\$12.23	\$12.30	\$12.43	\$12.61	\$12.86
April	\$12.95	\$13.00	\$13.06	\$13.19	\$13.38	\$13.64
May	\$14.00	\$13.99	\$13.98	\$13.97	\$13.94	\$13.91
June	\$14.76	\$14.76	\$14.75	\$14.74	\$14.74	\$14.72
July	\$14.65	\$14.64	\$14.61	\$14.55	\$14.49	\$14.40
August	\$15.00	\$15.19	\$14.96	\$14.92	\$14.87	\$14.79
September	\$15.26	\$15.24	\$15.22	\$15.18	\$15.11	\$15.03
October	\$12.98	\$13.01	\$13.06	\$13.16	\$13.30	\$13.49
November	\$11.92	\$11.98	\$12.08	\$12.29	\$12.55	\$12.92
December	\$11.22	\$11.24	\$11.25	\$11.29	\$11.34	\$11.41
January 2002	\$11.46	\$11.46	\$11.47	\$11.47	\$11.48	\$11.50
February	\$10.81	\$10.83	\$10.86	\$10.92	\$11.01	\$11.12
March	\$10.66	\$10.68	\$10.72	\$10.79	\$10.88	\$11.01
April	\$10.70	\$10.70	\$10.71	\$10.72	\$10.75	\$10.77
May	\$10.35	\$10.35	\$10.36	\$10.37	\$10.40	\$10.42
June	\$9.88	\$9.89	\$9.92	\$9.96	\$10.02	\$10.10
July	\$9.57	\$9.60	\$9.65	\$9.76	\$9.90	\$10.10
August	\$9.80	\$9.81	\$9.81	\$9.83	\$9.86	\$9.90
September	\$9.88	\$9.88	\$9.87	\$9.86	\$9.85	\$9.83
October	\$10.14	\$10.12	\$10.10	\$10.05	\$10.00	\$9.91
November	\$9.70	\$9.74	\$9.81	\$9.93	\$10.10	\$10.36
December	\$9.75	\$9.76	\$9.79	\$9.84	\$9.92	\$10.02
January 2003	\$9.72	\$9.72	\$9.73	\$9.75	\$9.78	\$9.82
February	\$9.40	\$9.40	\$9.40	\$9.40	\$9.41	\$9.41
March	\$9.22	\$9.23	\$9.27	\$9.32	\$9.41	\$9.52
April	\$9.32	\$9.32	\$9.34	\$9.35	\$9.31	\$9.41
May	\$9.34	\$9.35	\$9.35	\$9.36	\$9.38	\$9.40
June	\$9.50	\$9.50	\$9.51	\$9.50	\$9.50	\$9.50
July	\$11.05	\$10.97	\$10.83	\$10.56	\$10.19	\$9.62
August	\$12.26	\$12.17	\$12.02	\$11.72	\$11.29	\$10.67

The Effect on the Annual Overbase Average Price When Various Percentages of Class 4a Milk are Pooled From 1998 to 2003

	Percent of Class 4a Pooled					
	<u>Actual</u>	<u>90%</u>	<u>75%</u>	<u>50%</u>	<u>25%</u>	<u>0%</u>
1998	\$14.14	\$0.00	-\$0.04	-\$0.11	-\$0.20	-\$0.37
1999	\$12.69	\$0.05	\$0.09	\$0.16	\$0.24	\$0.34
2000	\$10.76	\$0.00	-\$0.04	-\$0.13	-\$0.24	-\$0.37
2001	\$13.11	-\$0.01	-\$0.03	-\$0.07	-\$0.11	-\$0.15
2002	\$10.23	\$0.00	-\$0.01	-\$0.03	-\$0.04	-\$0.05
2003	\$9.98	\$0.00	\$0.00	\$0.01	\$0.01	\$0.02

Price at 100% is the overbase price per cwt; all other dollar values are the differences between the price per cwt at the corresponding percentage of milk and the overbase price with 100% of the milk pooled.

The Effect on the Annual Overbase Average Price When Various Percentages of Class 4b Milk are Pooled From 1998 to 2003

	Percent of Class 4b Pooled					
	<u>Actual</u>	<u>90%</u>	<u>75%</u>	<u>50%</u>	<u>25%</u>	<u>0%</u>
1998	\$14.14	\$0.04	\$0.05	\$0.10	\$0.16	\$0.25
1999	\$12.69	\$0.03	\$0.03	\$0.04	\$0.04	\$0.04
2000	\$10.76	\$0.07	\$0.14	\$0.28	\$0.46	\$0.70
2001	\$13.11	\$0.04	\$0.05	\$0.12	\$0.22	\$0.36
2002	\$10.23	\$0.02	\$0.05	\$0.11	\$0.19	\$0.31
2003	\$9.98	\$0.01	\$0.03	\$0.06	\$0.10	\$0.17

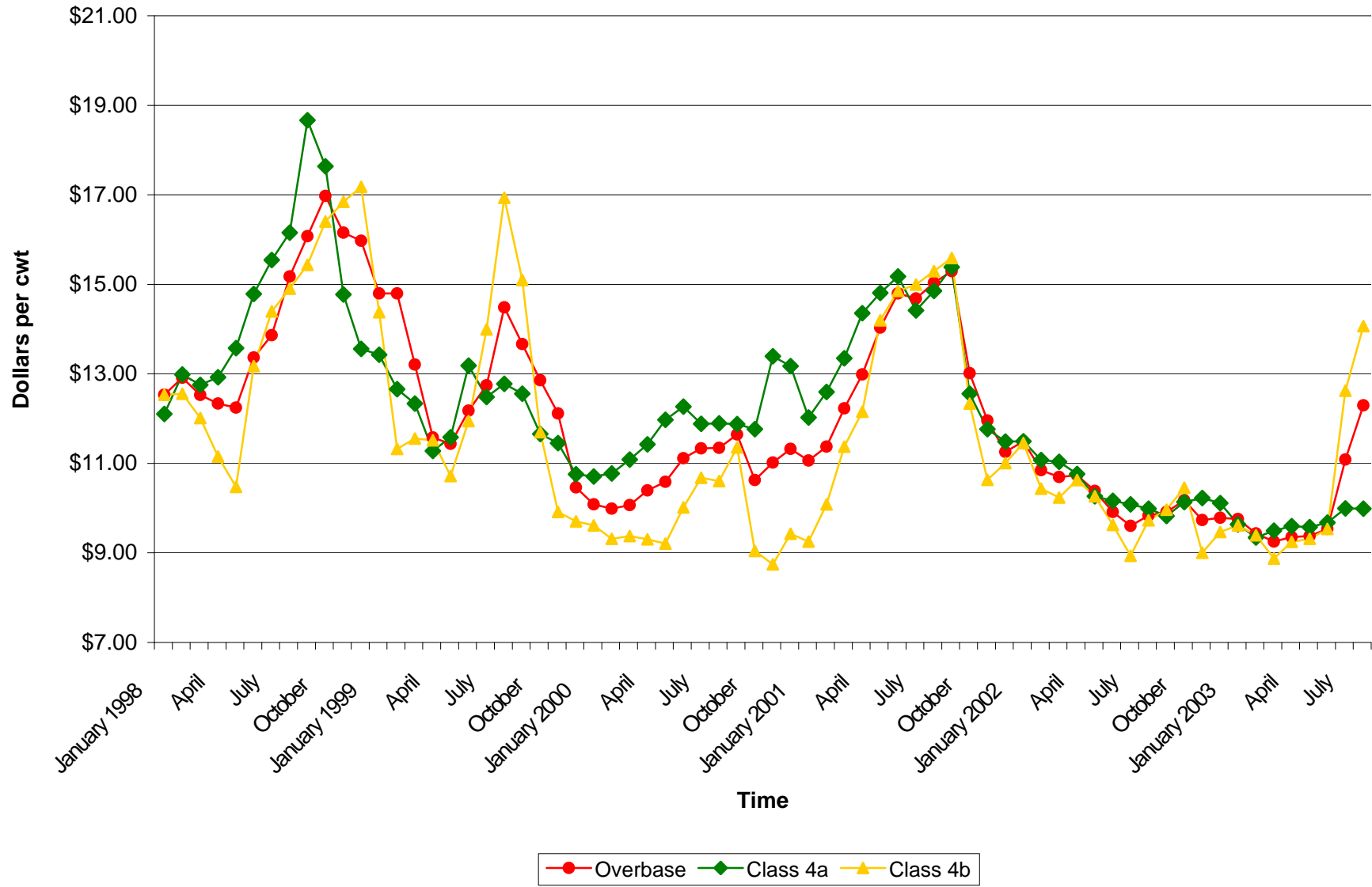
Price at 100% is the overbase price per cwt; all other dollar values are the differences between the price per cwt at the corresponding percentage of milk and the overbase price with 100% of the milk pooled.

Count of the Number of Times There Was an "Incentive" for 4a or 4b Milk to be Depooled 100%

	<u>B/P</u>	<u>Cheese</u>	<u>Neither</u>
1998	9	2	1
1999	3	3	6
2000	12	0	0
2001	7	3	2
2002	8	2	2
2003	4	2	2
Total	43	12	13

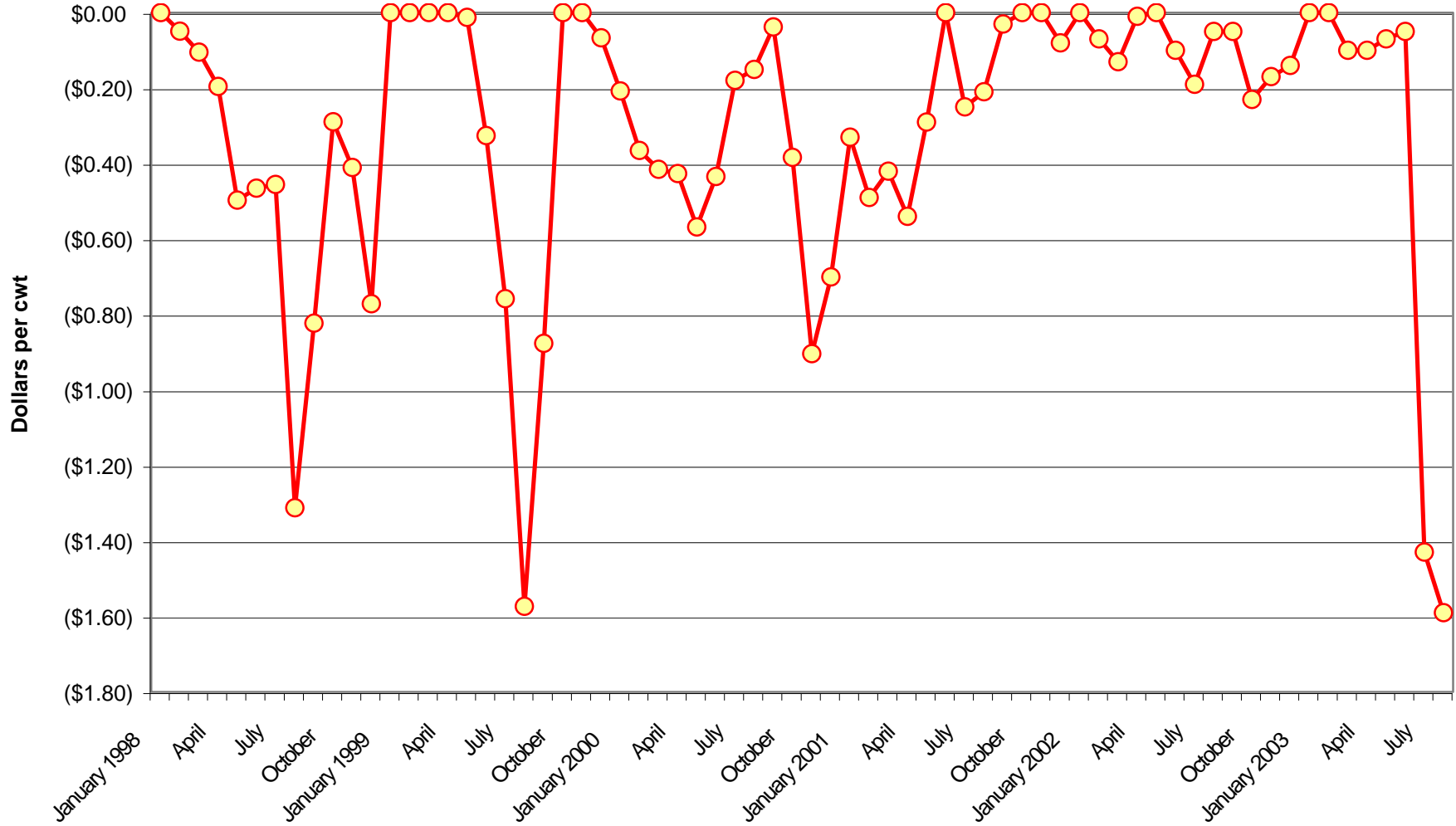
% for 5 year period 63.24% 17.65% 19.12%

Overbase, Class 4a, and Class 4b Prices for January 1998 to August 2003



Effect on Pool Price When There is an "Incentive" for 100% of 4a or 4b Milk to Depool

Assumptions: * 4a and 4b plants can depool at anytime (on a monthly basis); cooperatives can also depool on a monthly basis.
 * There is an "incentive" for the plant to depool all of their milk, meaning the class price is greater than the overbase price
 * 4a and 4b plants can accurately estimate pool prices every month, and all of their milk would be depooled accordingly



Questions and Answers Regarding Plants That Have Depooled

Q1. How many plants have depooled?

A1. Two plants during the 1998 through 2003 time period have exercised the option to depool for economic reasons.

Q2. How many producers have depooled?

A2. The term, “depooling” is not easily applied to producers. Milk and/or plants are pooled or depooled, and not the producers themselves.

Current regulations specify that:

- Grade A producer milk that is shipped to a pool plant or diverted by a pool plant to a non-pool plant is considered pool milk.
- Grade A producer milk that is shipped to a non-pool (or depooled) plant is considered non-pool (or depooled) milk

Q3. How much milk has been depooled?

A3. On average, between 17 and 25 million pounds of milk per month.

Q4a. What was the amount of “pool draw” while the plants were pooled?

Q4b. What was the amount lost to the pool while the plants were depooled?

A4. Two parts to consider:

- the differences of Class 4b fat less overbase fat and of Class 4b SNF and overbase SNF by month.
- the pounds of fat and SNF pooled or depooled.

Questions 4a and 4b only consider the advantages of pooling or depooling. There are also instances in which the plants were pooled or depooled when the economics suggested that the plants should have taken the opposite position.

Consider the following decision table:

	Class 4b - O/B = +	Class 4b - O/B = -
Plant participates in pool	Advantage to the pool	Advantage to the plant
Plant does not participate in pool	Advantage to the plant	Advantage to the pool

Questions 4a and 4b consider only the shaded quadrants when, in fact, there are advantages to the pool when plants do not follow economic signals to pool or to depool at the appropriate time (represented by the unshaded quadrants).

Results of analyzing the incentive to depool with actual plant designations (i.e., pooled or depooled) , range of annual totals from 1998 to 2003

	Class 4b - O/B = +	Class 4b - O/B = -
Plants participate in pool	\$0 to \$190,000 (plants were pooled when economic signals indicated they should not have been; money was paid into the pool)	\$0 to \$800,000 (plants were pooled and drew money from the pool)
Plants do not participate in pool	\$0 to \$1,250,000 (plants were not paying money into the pool; plants were depooled)	\$0 to \$1,215,000 (plants were depooled when economic signals indicated they should have been in the pool; money was "left" in the pool)