PanSaver®

Industry Services Project
Addendum to Final Report

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Introduction

At the request of representatives of M&Q Plastics, the sponsors of the original study, elements of the study on effects of labor costs with the use of PanSaver® vs. not using PanSaver® were repeated and data re-analyzed to provide additional labor savings information.

Pursuant to the original study, all methodology including definitions, protocol, personnel / facilities, procedures, data collection forms, and soil code evaluations were the same with the following exceptions:

- A limited number of menu items were prepared for this version of the study. Those menu items included:
  - Scrambled Eggs
  - Macaroni and Cheese
  - Mashed Potatoes
  - Split Pea Soup
  - Brownies
  - Meat Loaf
- The menu items were served during the same testing days, that is there was not a separation between breakfast menu and lunch / dinner menu testing days as per the original study,
- The menu items were held and served independently from each other, that is each menu item was held and served by itself rather than in conjunction with the other menu items as per the original test,
- Each menu item was prepared in batches of five (5) hotel pans as per the original study; however, only two (2) repetitions each were conducted for PanSaver® and Non PanSaver®,
- Batches of pans from each menu item were washed together, rather than all pans for all menu items as per the original test,
- Data regarding cooking and holding times were not recorded. Only data regarding washing times were noted and recorded,
- Soil codes were neither evaluated nor recorded during this study.

Results of Data Analysis

Data were analyzed to determine the differences in the amount of time spent washing pans lined with the PanSaver® liner vs. pan that were not lined with PanSaver®. The average wash times and differences in wash times between lined and non-lined pans were compared to hourly wage data obtained from the Bureau of Labor Statistics for four metropolitan areas. The resulting comparison was extrapolated to predict annual dollar savings by using PanSaver® liners. In all cases, there was a time and dollar savings observed for pans with a PanSaver® vs. those that were not lined.

Table 1 shows total wash times per menu item for each repetition of PanSaver® and Non-PanSaver® expressed as total wash time, and wash time per pan (average).

Repetition	Item	Start Time	End Time	Total Wash time	Wash time Per Pan
PanSaver® Test I	Macaroni & Cheese	10:36:00	10:37:00	0:01:00	0:00:12
	Scrambled Eggs	8:37:00	8:39:00	0:02:00	0:00:24
	Meat Loaf	9:05:00	9:11:00	0:06:00	0:01:12
	Brownies	8:59:00	9:02:00	0:03:00	0:00:36
	Mashed Potatoes	9:32:00	9:33:00	0:01:00	0:00:12
	Split Pea Soup	9:35:00	9:37:00	0:02:00	0:00:24
Non PanSaver® Test 1	Macaroni & Cheese	13:19:00	13:39:00	0:20:00	0:04:00
	Scrambled Eggs	11:29:00	11:51:00	0:22:00	0:04:24
	Meat Loaf	10:54:00	11:09:00	0:15:00	0:03:00
	Brownies	11:22:00	11:25:00	0:03:00	0:00:36
	Mashed Potatoes	12:24:00	12:28:00	0:04:00	0:00:48
	Split Pea Soup	12:28:00	12:32:00	0:04:00	0:00:48
PanSaver® Test 2	Macaroni & Cheese	12:41:00	12:44:00	0:03:00	0:00:36
	Scrambled Eggs	10:50:00	10:53:00	0:03:00	0:00:36
	Meat Loaf	11:19:00	11:28:00	0:09:00	0:01:48
	Brownies	11:36:00	11:40:00	0:04:00	0:00:48
	Mashed Potatoes	11:45:00	11:47:00	0:02:00	0:00:24
	Split Pea Soup	11:50:00	11:52:00	0:02:00	0:00:24
Non PanSaver® Test 2	Macaroni & Cheese	9:55:00	10:02:00	0:07:00	0:01:24
	Scrambled Eggs	7:53:00	8:12:00	0:19:00	0:03:48
	Meat Loaf	8:15:00	8:31:00	0:16:00	0:03:12
	Brownies	9:14:00	9:20:00	0:06:00	0:01:12
	Mashed Potatoes	9:00:00	9:05:00	0:05:00	0:01:00
	Split Pea Soup	9:05:00	9:12:00	0:07:00	0:01:24

Table 1 Wash times per repetition

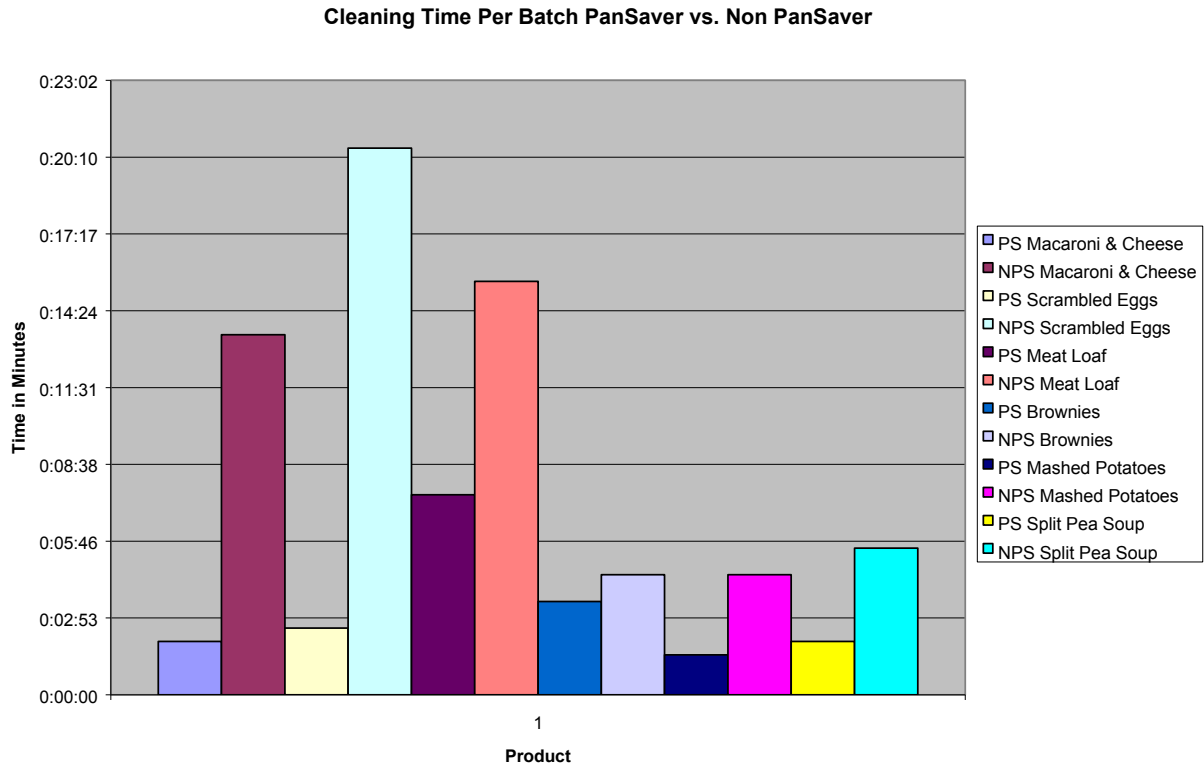**Cleaning Time Per Batch PanSaver vs. Non PanSaver**

Figure 1 Graph of cleaning times for PanSaver® vs. Non PanSaver®

Figure 1 offers a visual view of cleaning times of pans lines with PanSaver® vs. pans not lined with PanSaver®. The most significant differences can be seen scrambled eggs, meat loaf and macaroni and cheese.

Table 2 calculates average time per batch of each menu item and productivity expressed as pans per minute, and pans per hour. Although it may be unrealistic to expect a pot washer to wash 150 pans per hour as in the case of Macaroni and Cheese, the fact that the pans lined with PanSaver® are washed 675% faster than pans not lined can not be ignored. In fact using PanSaver® liners can result in an average increase of over 400% in productivity across the menu[*].

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[*] Using the menus identified in the study, the average wash time savings by using PanSaver® vs. not using PanSaver® was 401%

		Average Productivity					
	Item	Average time (minutes) per batch	Average Time (minutes) Decimal	Average Time (seconds) per Pan	Productivity - Pans Per Minute	Productivity - Pans Per Hour	Percentage change
Pan Saver	Macaroni & Cheese	0:02:00	2.00	0:00:24	2.50	150.00	675%
	Scrambled Eggs	0:02:30	2.50	0:00:30	2.00	120.00	820%
	Meat Loaf	0:07:30	7.50	0:01:30	0.67	40.00	207%
	Brownies	0:03:30	3.50	0:00:42	1.43	85.71	129%
	Mashed Potatoes	0:01:30	1.50	0:00:18	3.33	200.00	300%
	Split Pea Soup	0:02:00	2.00	0:00:24	2.50	150.00	275%
Non Pan Saver	Macaroni & Cheese	0:13:30	13.50	0:02:42	0.37	22.22	
	Scrambled Eggs	0:20:30	20.50	0:04:06	0.24	14.63	
	Meat Loaf	0:15:30	12.50	0:03:06	0.32	19.35	
	Brownies	0:04:30	4.50	0:00:54	1.11	66.67	
	Mashed Potatoes	0:04:30	4.50	0:00:54	1.11	66.67	
	Split Pea Soup	0:05:30	5.50	0:01:06	0.91	54.55	

Table 2 Calculation of productivity

Productivity can be extrapolated into potential dollar savings. The following data are based on wage information obtained from the United States Department of Labor, Bureau of Labor Statistics.

The mean hourly earnings for full time workers for the following areas are
- Boston – Worcester – Lawrence, MA – NH – ME – CT $8.63
- Los Angeles – Riverside – Orange County, CA $8.06
- New York - New Jersey – Long Island, NY – NJ – CT – PA $8.32
- Chicago- Gary – Kenosha, IL – IN – WI $8.39

The potential weekly and annual savings for these areas are illustrated in tables 3-6, and in figure 2. The largest savings go to the Boston area market, followed by Chicago, New York City, and Los Angeles.[**]

[**] These figures do not take into consideration benefits or adjustments for leave time, etc. Nor do these figures take into consideration expenses for soap, water, heating, cleaning equipment, and depreciation on capital. These figures further do not include the price of the PanSaver® liner

		Boston			Potential Savings		
	Item	Labor per batch - Boston ($8.63/hr)	Dollar Savings Per Batch	Percentage Savings Per Batch	Weekly	Monthly	Annually
Pan Saver	Macaroni & Cheese	$ 0.29	$ 1.65	85%	$ 8.27	$ 33.08	$1,720.25
	Scrambled Eggs	$ 0.36	$ 2.59	88%	$ 12.95	$ 51.78	$2,692.56
	Meat Loaf	$ 1.08	$ 0.72	40%	$ 3.60	$ 14.38	$ 747.93
	Brownies	$ 0.50	$ 0.14	22%	$ 0.72	$ 2.88	$ 149.59
	Mashed Potatoes	$ 0.22	$ 0.43	67%	$ 2.16	$ 8.63	$ 448.76
	Split Pea Soup	$ 0.29	$ 0.50	64%	$ 2.52	$ 10.07	$ 523.55
Non Pan Saver	Macaroni & Cheese	$ 1.94					
	Scrambled Eggs	$ 2.95					
	Meat Loaf	$ 1.80					
	Brownies	$ 0.65					
	Mashed Potatoes	$ 0.65					
	Split Pea Soup	$ 0.79					

Table 3 Potential labor savings, Boston[***]

		Los Angeles			Potential Savings		
	Item	Labor per batch - Los Angeles ($8.06/hr)	Dollar Savings per Batch	Percentage Savings	Weekly	Monthly	Annually
Pan Saver	Macaroni & Cheese	$ 0.27	$ 1.54	85%	$ 7.72	$ 30.90	$1,606.63
	Scrambled Eggs	$ 0.34	$ 2.42	88%	$ 12.09	$ 48.36	$2,514.72
	Meat Loaf	$ 1.01	$ 0.67	40%	$ 3.36	$ 13.43	$ 698.53
	Brownies	$ 0.47	$ 0.13	22%	$ 0.67	$ 2.69	$ 139.71
	Mashed Potatoes	$ 0.20	$ 0.40	67%	$ 2.02	$ 8.06	$ 419.12
	Split Pea Soup	$ 0.27	$ 0.47	64%	$ 2.35	$ 9.40	$ 488.97
Non Pan Saver	Macaroni & Cheese	$ 1.81					
	Scrambled Eggs	$ 2.75					
	Meat Loaf	$ 1.68					
	Brownies	$ 0.60					
	Mashed Potatoes	$ 0.60					
	Split Pea Soup	$ 0.74					

Table 4 Potential labor savings, Los Angeles*

[***] Labor savings based on the menu used in the study under the conditions described herein and in the original report

	Item	New York			Potential Savings		
		Labor per batch - New York City ($8.32/hr)	Dollar Savings Per Batch	Percentage Savings Per Batch	Weekly	Monthly	Annually
Pan Saver	Macaroni & Cheese	$ 0.28	$ 1.59	85%	$ 7.97	$ 31.89	$1,658.45
	Scrambled Eggs	$ 0.35	$ 2.50	88%	$ 12.48	$ 49.92	$2,595.84
	Meat Loaf	$ 1.04	$ 0.69	40%	$ 3.47	$ 13.87	$ 721.07
	Brownies	$ 0.49	$ 0.14	22%	$ 0.69	$ 2.77	$ 144.21
	Mashed Potatoes	$ 0.21	$ 0.42	67%	$ 2.08	$ 8.32	$ 432.64
	Split Pea Soup	$ 0.28	$ 0.49	64%	$ 2.43	$ 9.71	$ 504.75
Non Pan Saver	Macaroni & Cheese	$ 1.87					
	Scrambled Eggs	$ 2.84					
	Meat Loaf	$ 1.73					
	Brownies	$ 0.62					
	Mashed Potatoes	$ 0.62					
	Split Pea Soup	$ 0.76					

Table 5 Potential labor savings, New York ***

	Item	Chicago			Potential Savings		
		Labor per Batch - Chicago ($8.39/hr)	Dollar Savings Per Batch	Percentage Savings per Batch	Weekly	Monthly	Annually
Pan Saver	Macaroni & Cheese	$ 0.28	$ 1.61	85%	$ 8.04	$ 32.16	$1,672.41
	Scrambled Eggs	$ 0.35	$ 2.52	88%	$ 12.59	$ 50.34	$2,617.68
	Meat Loaf	$ 1.05	$ 0.70	40%	$ 3.50	$ 13.98	$ 727.13
	Brownies	$ 0.49	$ 0.14	22%	$ 0.70	$ 2.80	$ 145.43
	Mashed Potatoes	$ 0.21	$ 0.42	67%	$ 2.10	$ 8.39	$ 436.28
	Split Pea Soup	$ 0.28	$ 0.49	64%	$ 2.45	$ 9.79	$ 508.99
Non Pan Saver	Macaroni & Cheese	$ 1.89					
	Scrambled Eggs	$ 2.87					
	Meat Loaf	$ 1.75					
	Brownies	$ 0.63					
	Mashed Potatoes	$ 0.63					
	Split Pea Soup	$ 0.77					

Table 6 Potential labor savings, Chicago***

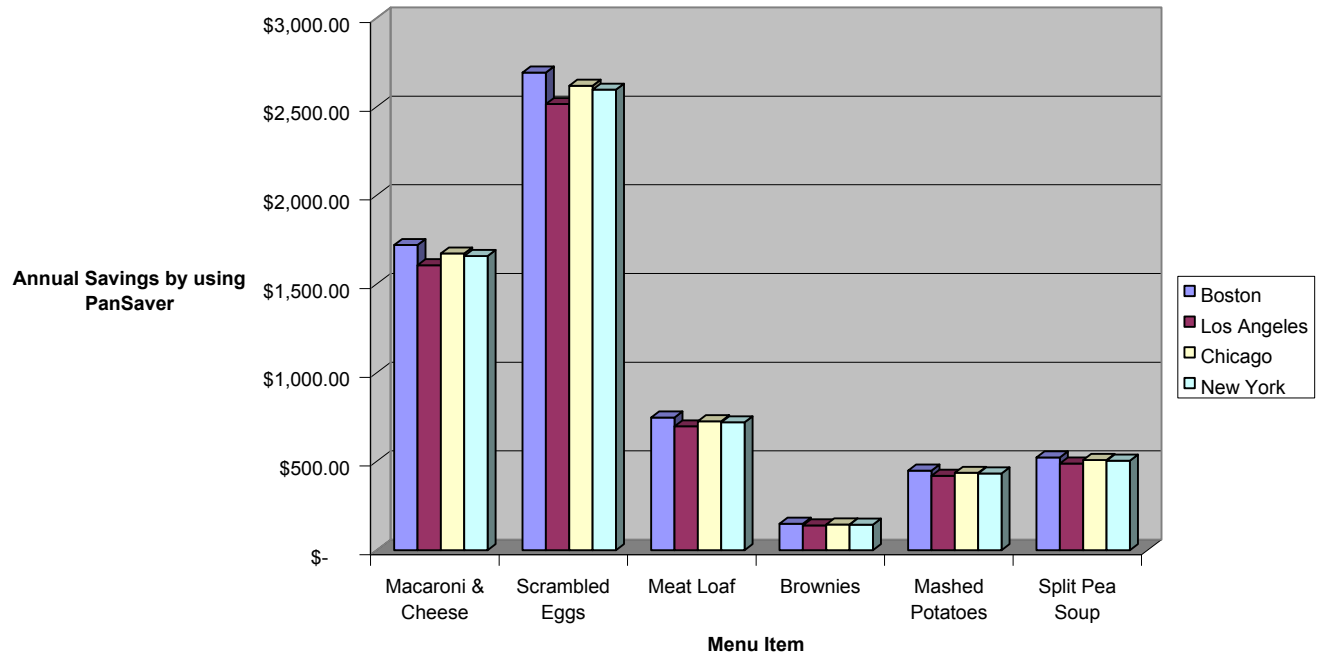**Savings Comparison by City and menu**

Figure 2 Graph of potential labor savings by city and menu item

Appendices

APPENDIX A – DATA COLLECTION FORM

PANSAVER® TIME RECORDING FORM FOR ALL ITEMS

Date: _____   Recorder: David Kamen
Replication Number: _____

Enter the item code (see box) in column 1, the empty pans are moved to the warewashing area for cleaning in column 2, and the time the pans are returned clans in column 3. Identify if it has been cleaned adequately in column 6a. (If pan does not meet cleaning criteria, return pan to potwasher for cleaning and record number of times a pan is returned to potwasher in column 6b).

MP = Mashed Potatoes   ML = Meat loaf   MC = Mac and Cheese
SE = Scrambled Eggs   SP = Split Pea Soup   BR = Brownies

Food Item Code [1]	Time cleaning Began [2]	Time returned [3]	Clean	
			Yes [4a]	Returned [4b]
Sample SP	Sample 10:05 AM	Sample 12:07 PM	Sample X	Sample