

In-Field Evaluation of PURE Hard Surface Disinfectant: In-Restaurant Tomato Slicer

INTRODUCTION

The in-store tomato slicer's use, subsequent cleaning, and sanitizing are challenging for QSR and restaurant team members. Current sanitation practices may not be sufficient to provide the highest level of microbial control desired by management to ensure food safety standards are maintained. The sharp blades of these devices can also pose a safety risk during cleaning leading to the potential for harborage organisms to remain after standard cleaning. In earlier investigations by a customer and PURE, PURE Hard Surface demonstrated superior sanitation of the tomato slicer when evaluated using ATP measurements.

This evaluation was designed to elaborate on previous testing by establishing efficacy data based upon microbiological cultures, providing further confidence in the performance of PURE Hard Surface in this use pattern.

OBJECTIVE:

The objective of this study was to further evaluate the effectiveness of PURE Hard Surface on the in-store tomato slicer using APC swabs at the request of the customer. Efficacy was evaluated based on Aerobic Plate Counts (APC) from the test surfaces using the following criteria established by customer:

Microorganism	Target	Exceeds	Marginal
APC	≤1,000 CFU/swab	≤500 CFU/swab	≤10,000 CFU/swab

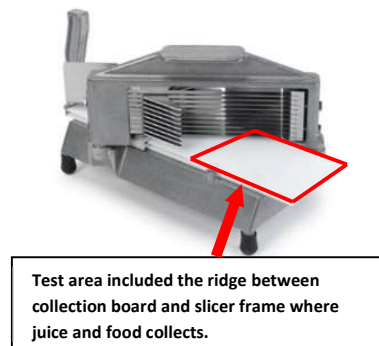
Samples were collected from six (6) separate locations over two days and sent to a third-party lab for microbial testing.

METHOD AND PROCEDURES:

PURE personnel collected swabs from the tomato slicers at 6 quick-service restaurant locations. Each slicer was tested on two consecutive days. Swabs were not collected from one location on the first day because the slicer had already been cleaned and sanitized and was not expected to be used again that day.

The test area included the surface of the collection board and the ridge of the collection tray as indicated in Figure 1 below:

FIGURE 1: TEST AREA



PURE collected baseline swabs from the used and unclean slicers (DIRTY). The slicers were then washed in the first compartment sink according to restaurant protocol and allowed to drain for 2-3 minutes. Washing was completed by restaurant employees whenever possible. Swabs were collected from the test area after washing and draining (CLEAN). Surfaces were not completely dry prior to application of the sanitizer. Five (5) sprays of PURE Hard Surface Sanitizer/Disinfectant (enough to visibly wet the surfaces of the slicer and ensure homogeneous coverage) were then applied to the slicer and allowed to sit for 2 minutes. The slicer was then lightly rinsed with water and allowed to drain for approximately 5 minutes. After sanitization with PURE Hard Surface and draining, a swab was collected from the test area (SANI).

RESULTS:

Application of PURE Hard Surface disinfectant and food contact surface sanitizer to the tomato slicer following the standard restaurant cleaning practices met the acceptable target defined in the test protocol ($\leq 1,000$ CFU/swab) apart from one test, which was below the marginal allowance of $\leq 10,000$ CFU/swab (Store 5, 25-Sept). When sanitized with PURE Hard Surface, nine (9) of the ten (10) swabs exceeded the success target with readings below 500 CFU/swab. Washing alone was not able to meet the target criteria and, in some cases, increased the APC reading. Even after washing, the APC counts were well above the marginal acceptable level of $\leq 10,000$ CFU/swab in eight (8) out of ten (10) swabs.

The APC readings are outlined in Table 1. The Certificate of Analysis is on file.

Figure 1 provides a graphical representation of the results from each of the surfaces. In Figure 2, the data is consolidated to demonstrate the significant reduction in APC provided when sanitized with PURE Hard Surface. On average, PURE Hard Surface was able to exceed the test criteria.

Figure 1:

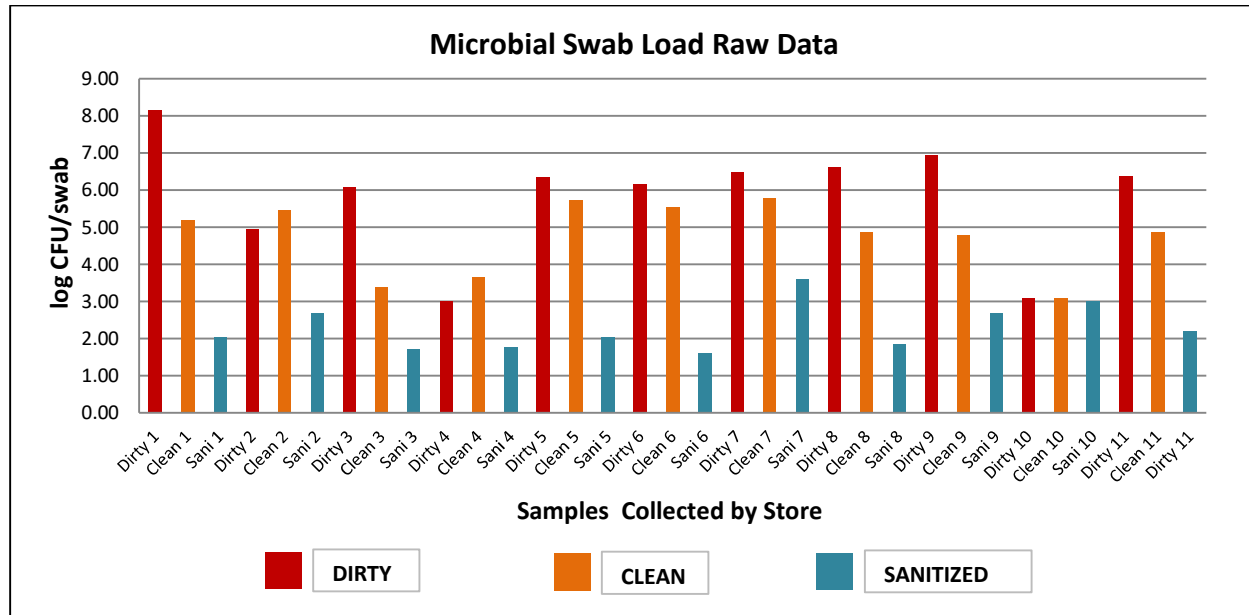
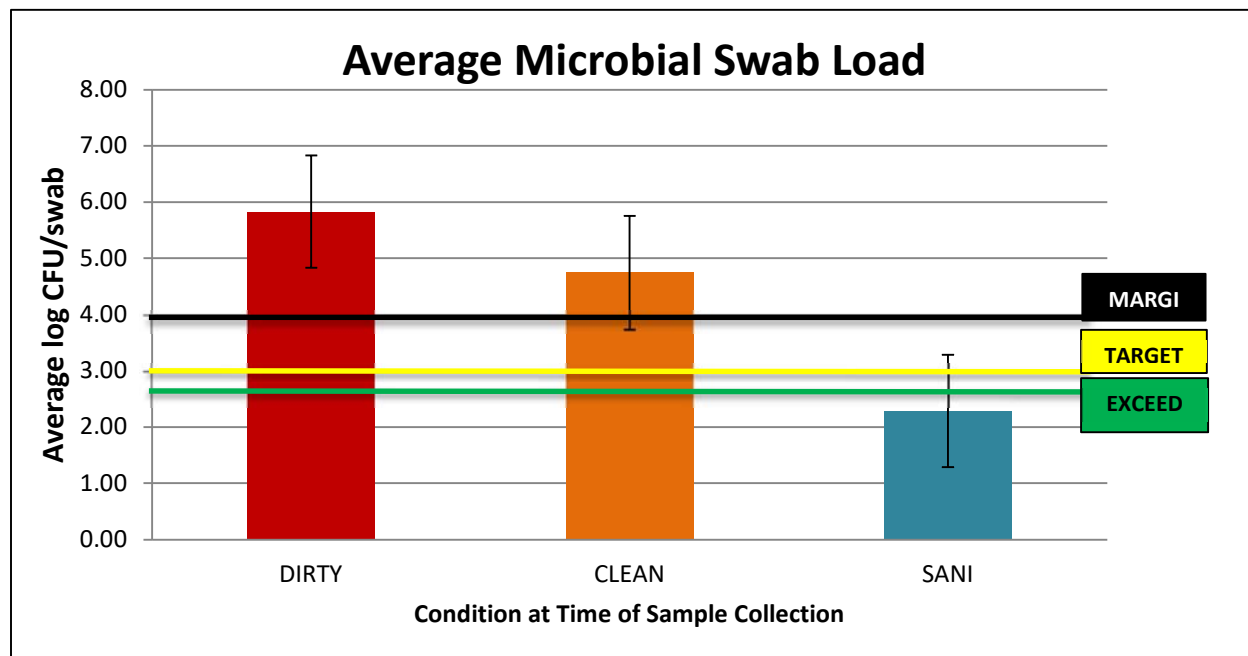


Figure 2:



RESULTS CONTINUED ON NEXT PAGE

TABLE 1:

<u>Store #</u>	<u>Date</u>	<u>Time</u>	<u>Condition</u>	<u>Swab ID</u>	<u>Results (CFU)</u>	<u>Success Criteria</u>
Store 1	24-Sep	9:25 AM	DIRTY	M13267-01	140,000,000	DOES NOT MEET TARGET
			CLEAN	M13267-02	160,000	DOES NOT MEET TARGET
			SANI	M13267-03	110	EXCEEDS CRITERIA
	25-Sep	9:52 AM	DIRTY	M13267-31	2,400,000	DOES NOT MEET TARGET
			CLEAN	M13267-32	72,000	DOES NOT MEET TARGET
			SANI	M13267-33	160	EXCEEDS CRITERIA
Store 2	24-Sep	11:04 AM	DIRTY	M13267-04	90,000	DOES NOT MEET TARGET
			CLEAN	M13267-05	280,000	DOES NOT MEET TARGET
			SANI	M13267-06	480	EXCEEDS CRITERIA
	25-Sep	4:20PM	DIRTY	M13267-22	4,000,000	DOES NOT MEET TARGET
			CLEAN	M13267-23	73,000	DOES NOT MEET TARGET
			SANI	M13267-24	70	EXCEEDS CRITERIA
Store 3	24-Sep	2:49 PM	DIRTY	M13267-07	1,200,000	DOES NOT MEET TARGET
			CLEAN	M13267-08	2,400	DOES NOT MEET TARGET
			SANI	M13267-09	50	EXCEEDS CRITERIA
	25-Sep	3:52 PM	DIRTY	M13267-25	9,000,000	DOES NOT MEET TARGET
			CLEAN	M13267-26	63,000	DOES NOT MEET TARGET
			SANI	M13267-27	480	EXCEEDS CRITERIA
Store 4	24-Sep	3:40 PM	DIRTY	M13267-10	1,000	MEETS TARGET
			CLEAN	M13267-11	4,400	DOES NOT MEET TARGET
			SANI	M13267-12	60	EXCEEDS CRITERIA
	25-Sep	4:44 PM	DIRTY	M13267-16	1,400,000	DOES NOT MEET TARGET
			CLEAN	M13267-17	340,000	DOES NOT MEET TARGET
			SANI	M13267-18	40	EXCEEDS CRITERIA
Store 5	24-Sep	2:25 PM	DIRTY	M13267-13	2,200,000	DOES NOT MEET TARGET
			CLEAN	M13267-14	540,000	DOES NOT MEET TARGET
			SANI	M13267-15	110	EXCEEDS CRITERIA
	25-Sep	6:42 PM	DIRTY	M13267-19	3,000,000	DOES NOT MEET TARGET
			CLEAN	M13267-20	600,000	DOES NOT MEET TARGET
			SANI	M13267-21	4,000	DOES NOT MEET TARGET
Store 6	25-Sep	3:28 PM	DIRTY	M13267-28	1,200	DOES NOT MEET TARGET
			CLEAN	M13267-29	1,200	DOES NOT MEET TARGET
			SANI	M13267-30	1,000	MEETS TARGET

DIRTY: Swab taken from used and un-clean slicer.

CLEAN: Swabs taken from slicer after washing in first compartment sink according to store protocol.

SANI: Swabs taken from slicer after sanitization with PURE Hard Surface.