Sanitation Training for Food Service Industry: Tops Supermarket as a Case Study

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Abstract

A collaborative project between Tops Supermarket and Assumption University on "Sanitation Training for Food Service Industry" was conducted in all Tops Supermarket branches in Bangkok and throughout Thailand. The sanitary conditions in the supermarkets before training did not meet the standard of Good Manufacturing Practice (GMP). AU took part in setting up the training teams to educate the staff in all the branches on GMP. After the training, there was some improvement in sanitary condition especially in the areas of management, personnel supervision, cleaning technique and food handling. The staff in food service department became familiar with the sanitation procedure and practice that were required for the routine performance of their job. Nevertheless, the personal hygiene still needs to be improved.

Keywords: Food services industry, GMP, personal hygiene and sanitation.

Introduction

As changing consumer behavior and improvement of technology alter the way the manufacturers and retailers respond to market needs, conventional theory and practice at every stage of evolving distribution systems are now being critically re-evaluated. At the retail level, increased competition, technological development, over-supply of food products and new consumer demands are forcing companies to change from supply (push)-oriented production to demand (pull)-oriented production.

New demands could be described as:

- Environmental friendly production
- High quality of food with a long shelf life
- Short lead times (fresh products)
- Products in broad assortments available throughout the year
- Competitiveness

However, cleanliness and safety of food are of utmost concerns for the customers. Even though food production, handling, preparation techniques and eating habit have changed, one fact remains - i.e. food can be a source of microorganisms that can cause illness. As handling and processing in modern retail supermarkets have increased the journey of hazardous microorganisms from a production area to a consumer table, the opportunities for food to be contaminated with microorganisms have considerably increased and this has become a matter of great public health concern.

The primary goal of a food service sanitation program is to protect the consumers from contamination or to reduce the effect of the contamination. Since pathogenic microorganisms can be found everywhere with approximately 50% on the personnel handling food, big chain supermarket like "Tops" that supplies high-quality fresh foods is required to implement a Good

Manufacturing Practice (GMP) in all production stages of its fresh products. With the collaboration between Tops Super-market and Assumption University, the Sanitation Training Program for Food Service Industries has been implemented in all branches of Tops Supermarket in Bangkok and throughout Thailand.

Objectives

The objectives of the Training are:

- 1. To comply with GMP.
- 2. To prevent any outbreak of diseases caused by hazardous microorganisms.
- 3. To improve the quality and shelf life of foods.
- 4. To reduce energy, maintenance, and insurance costs.
- 5. To ensure high quality products.

Training Steps

The training program for the staff consists of the following steps:

- 1. Survey of existing sanitary condition of Tops Supermarket before training.
- 2. Training of the management personnel on the following topics:
 - Importance of food sanitation
- Facility and equipment design
- Food contamination
- Personal hygiene and sanitary food handling
- Cleaning technique
- Pest control
- 3. In-house training for the employees:
- 3.1 Training the workers in the same topics as for management personnel given above.
- 3.2 Practical demonstration at each department on:
- Dressing method
- Hand washing method
 - Cleaning technique
- 4. Auditing (after one month of training).

Results and Discussion

The effectiveness of the training program can be evaluated by comparing the performance *before* and *after* the training in the following aspects:

Management and personnel supervision

Before: The management and personnel supervision on food sanitation was done by a common sense without any knowledge on GMP. The emphasis was more on marketing aspects like appearance and low cost of food items rather than cleanliness and hygiene.

After: The management had realized its responsibility adheres to GMP that subsequently influenced the safety of the product and was able to transfer the knowledge to the staff.

Personal hygiene

Hand Cleaning:

Before: Sanitation procedure was not properly followed by the workers. Detergent and sanitizer were rarely used. The workers spent little time on washing hands. It was a common sight to see the workers wearing the ornaments, or eating and drinking in the working area.

After: The workers realized that their hands were media for transferring pathogenic microorganisms. So, they washed their hands more frequently before, during, and after work.

Uniformity:

Before: The workers felt reluctant to wear proper uniform which includes gloves, hair net, apron and boots. They felt convenient to work with bare hands. They

complained that the gloves, the hair net and the boots were too uncomfortable to put on.

After: Most of the workers changed their attitude towards wearing the uniform, the hair net, the gloves, the apron and the boots during work. However some showed little improvement.

Hygienic practices:

Before: As mentioned earlier, the workers ate and drank during work. Hair-restraint was not used by female workers.

After: No improvement was observed.

Limiting the growth of the organisms of public health concern by temperature and time control:

Before: Previous practice for thawing was done without cover. The frozen products were left in the sink for a long time. Thawing water had not been changed when different products were thawed.

After: Improvement on a thawing procedure was observed in some branches while others were not.

Food characteristics:

Before: Improper way of handling specific foods was observed.

After: Few branches showed improvement while most of the branches have neglected.

Storage of equipment and utensils:

Before: The storing condition was poor. It was noticed that most of the equipment and utensils were misplaced and mixed up with the other category and even personal

belongings (e.g. cosmetic and mirror were found in the working area, etc.).

After: Equipment and utensils were found to be stored properly in many branches.

Cleaning of equipment and utensils:

Before: No cleaning during work was observed, e.g. the preparation table was cleaned with the detergent only once a shift.

After: The managers set up a cleaning schedule for the workers.

Sanitization of equipment and utensils:

Before: Laundry detergent was used for cleaning equipment, utensils, wall, floor, and preparation table in some branches.

After: All branches showed improvement by using special detergents and sanitizing agents.

Cleaning of utensils:

Before: Detergent, sanitizing agent, cloth, and brush were not made available to clean utensils. Misuse of the cleaning agents and tools was observed.

After: The managers provide necessary materials for cleaning.

Pest control:

Before: Rodent droppings were found in the cabinets, on the floor, and in the corners of the rooms. Cockroaches were seen in the working area.

After: Less frequency of pest finding was recorded. After training, 15 categories of GMP were investigated and the result was shown in Table 1.

Table 1. Comparison of sanitation situation before and after training.

Items	Before Training	After Training
1. Management and personnel supervision	the workers chang	Affer: Most o
1.1 Assignment of responsibility	s wearing the unitor	heir attitute toward
1.2 Demonstration of knowledge	ves, the apron and	he hair pet, the glo
1.3 Duties of person in charge	However fome snov	poots during work.
2. Personal cleanliness		nue improvement.
2.1 Hand and arms	Refore: The	management, and
2.1.1 Clean condition	sonnel surervision or	1000 santation was
2.1.2 Cleaning procedure	e by a Ogomeon	sease wittow and
2.1.3 When to wash	ayledge of OMA	Lengthasis+was mon
2.1.4 Where to wash	markating+typack file	
2.1.5 Hand sanitizers	t of food Osms rather	than clear+iness and
2.1.6 Fingernail maintenance	vement we observed	Affet No impro
2.1.7 Jewelry prohibitions	0	0
2.1.8 Outer clothing cleanliness	owth of the organis	Salt and the galized
2.2 Others / Alenau trengine grinseld ha	ern by temperature o	f public health com
2.2.1 Boots availability	sequentry + instruenced	ine comtolic and
2.2.2 Apron	duct and was an	e to transfer th
2.2.3 Gloves	us practico for thew	Before: Previo
3. Hygienic practices	ver. The frozen produ	vas done without co
3.1 Eating, drinking at work	or a long ome. I naw	vere left on the sink
3.2 Discharge from eyes, nose, mouth	changed when differ	vater had not been
3.3 Hair restraint effectiveness	0	roducts were mawer
3.4 Pet handling prohibition	Refere + Conitation	property ++ avas no
4. Contamination from consumers	wants a no mains	vergant : : 191\R s workers Deterver
4.1 Food display	sund only in boy	DEGO CENT SINCESON
4.2 Condiment protection	ent little tithe on was	ting hand tit was
4.3 Self-service operation	mmon sigi+ to seculia	weaters straging th
5. Limiting organisms of public health concern by temperature and time control	naments, or caung	nd araking in th
5.1 Frozen food	+ herres	to say shoot officer
5.2 Slaking	After: One worke	rs realized+that the
5.3 Thawing	nones should impro	nd was throgen
5.4 Cooling	of the branches h	nent withle most
5.5 Cooling Methods	ire frequently become	, during, ind
6. Food characteristics	rk.	
6.1 Safe sam unblow sett of	pment and utensils:	Stotuge of equi
6.2 Unadulterated	Uniformuy:	+
6.3 Honestly presented	ring condition was po	Befire: The sto
7. Protection from contamination	ost of the equipment a	t was noticed that me
7.1 Contamination from employees' hands	ced and 10 xed up w	tensits oere mispla
7.2 Contamination when tasting	and even perso	ne other category
7.3 Separation of different food items	0	+

pulater Traff A II Items Traffic III III S	Before Training	After Training
7.5.Non-tested additives	ransistates	12.4 Flbor
7.6 Washing fruits and vegetables	em +	12.5 Diamage syst
7.7 Food in contact with water or ice	dy and Italf Salpar	12.6 Cool storage
7.8 Food storage	h Facult Oof Engine	12.7 Sifeet vouden
7.9 Hot holding	nuinment and utensils	13 Sanitzation of e
7.10 Cold holding	d of sanitization	13.1 Proper metho
7.11 Ready-to-eat food expiry date	+	13.2 Rhsidue left
7.12 Ready-to-eat food disposition	ideidelletzeteldel ingen	Marchaelt daes by
7.13 Pest controlling equipment	design (Ore can sin	ulate cho 0 a rate
7.14 Proper temperature	ued perfo+nance, An	essentiquety Obt
7.15 FIFO	understa o ling of th	e devisant-vent
7.16 Thermometer	ailable sit p ilation pa	Mages in the All I
8. Food ID / presentation / labeling accurate representation	ns and lockers	14,5 Dressing root
8.1 Standards of identification	Tattl has somet	14 7 11 tracecount
8.2 Honestly presentation	ble de pritosto	re directed 1.8/A
8.3 Food labels	+ Harris Buttoard	14.0 Language
8.4 Other forms of information	reported and are base	ABIUSID DODALNOT
9. Design and strength	secretical model, in 8	the state of the party of the p
9.1 Durable food contact surfaces	0	0
9.1.1 Equipment and utensils	+	+
9.1.2 Food temperature measuring devices	**************************************	Andrew Herro 21
9.2 Cleanability	SSECT LEADER, MARKETS TO 1-10	15.7 Deragent
9.2.1 Food contact surfaces	ce-model. + spice sing	15.3 Sandisting ag
9.2.2 Temperature measuring devices	+	15.4 Cloth
9.2.3 Sinks	0	15.5 Brush
9.2.4 Cutting board	0	Harris day of the sections
9.2.5 Refrigerator	0 0 0	cs 1 and 2, of val
9.2.6 Ventilation hood systems	oliphikos 42 0 40 =	of the nuite of ear
9.2.7 Proper material used for food display	t ce ebrigaçã sannanon	paype of the devi
10. Number and capacities	at it describes; R	denotes resistor,
10.1 Cooling / heating / holding capacities	notes capacitor, L. re	resents inductor, et
10.2 Ventilation hood systems	complete list of all	of the elements bu
10.2 Ventilation flood systems 10.3 Utensils for consumer self-service	Massohri 0 and Anto	VALUE OF STATE
	Massobri V and Anton	metti (199†) portion sipileti netti
10.4 Food temperature measuring devices	vibalo 10 to 1010 millor	mail am to nomod
11. Maintenance and operation	a nsung or nig para nampung soot to so odels, in +use of nev	Surid Sulficilities
11.1 Good repair and proper adjustment	PER	- ominient - ent - reil-
11.2 Ventilation hoods drip prevention	0	oely pata-tettr was od giral god Alvi i
11.3 Cutting surfaces	+	+
11.4 Nonfood-contact surfaces	of sheen 0	0
12. Cleaning of equipment and utensils	The the damagers	aid for certain cates
12.1 Food-contact surfaces and utensils	0	DC C
12.2 Cooking and baking equipment	+	+
12.3 Nonfood-contact surface	0	+

Items	Before Training	After Training
12.4 Floor	itives +	7.5 Non-tested add
12.5 Drainage system	Ecosio sievibas	sturit smothwear
12.6 Cool storage room	with wat o or ice	7.7 Food in contact
12.7 Street vender	0	7.8 Forth storage,
13. Sanitization of equipment and utensils		7.9 Hor holding
13.1 Proper method of sanitization	0	7.10 Cald holding
13.2 Residue left	ood expir+ date	7.11 Ready-to-eat
14. Design, construction, and installation	ood disposition	7.12 Ready-to-eat
14.1 Floors	tr+mainba su	7.13 Past controlli
14.2 Walls	+ stute:	2.14 Pepper tempe
14.3 Ceilings	+	ZISF#O
14.4 Junctures	+	7.16 Figure les
14.5 Dressing rooms and lockers	entation of labeling accurat	Food+ID pres
14.6 Controlling pests	+	presentation -
14.7 Unnecessary items and litter	entificatio0	8.1 Stapdards of te
14.8 Light-bulb protecting shield	o notation o	8.2 Hooesdy prese
14.9 Food display	+	8.3 Foqd labels
14.10 Toilet rooms	midemetra	8.4 Ourer forms of
14.11 Food display shelf	+ 3/1	Desig+ and streng
15. Cleaning utensils	onfact surfaces	9.1 Durable food o
15.1 Bucket	and utensi	9.1.1 #guipment
15.2 Detergent	ature mesouring devices	9.1.2 + ood tempe
15.3 Sanitizing agent	0	9.2 Clepnability
15.4 Cloth	t surfaces 0	9.2.1 ∓ ood conta
15.5 Brush	e measuri O devices	9.2.2 + emperatur
15.6 Other equipment	+	9.2.3 Finks

Note:	0	te <u>u</u> tic	poor sanitation
	rvict or	= 1	proper sanitation
	++	1870	good sanitation

Conclusion

Before the training, the sanitary condition was considered to be relatively poor in many branches of Tops Supermarket. After the training and implementation of GMP, there have been some improvements in many categories in most of the branches. Nevertheless more attention still needs to be paid for certain categories.

Bibliography

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