

HYGIENIC ASPECTS OF FOOD PROCESSING IN THE FOOD INDUSTRY “SWISSLION”

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Abstract

With its turnover of 31 million Euros and 1.7 million Euros profit, Swisslion is the biggest and the most successful confectionary producer in Macedonia. Being the leader in the confectionary industry is much more than just achieving the financial figures, it is also being persistent in achieving its targets, being open for new projects and innovations, being creator of much stricter internal work procedures, being able to achieve full capacity of production and increase the market share in both domestic and export markets and finally being ahead in implementation and certification of the newest food safety standards.

With its 13 years of day to day experience in the business, always fulfilling all legal requirements, requirement of the customers and of all the certified standards within the company, Swisslion has vast examples concerning food safety in general. Starting with the hygienic aspects of the building itself, continuing with the processing equipment, adding the food safety of the raw materials, internal cleaning procedures, specific education and training of the employees as well as packaging, handling, storing and transporting of the final products, Swisslion pays special attention of each and every step during the whole food production process and a well organized system of control and action have been put in place.

Swisslion has managed to put under control all risks, taking into consideration many different factors that can cause contamination of the products. Even though Swisslion have to ensure that its entire process does not pose any health or safety risk, still all the involved stakeholders have an obligation to minimize risks and make an effort to find the most effective way to get good results.

Key words: *Swisslion, hygienic aspects of food production.*

1. Introduction

Swisslion, is the biggest confectionary producer in Macedonia and on the Balkans, as a part of the

Swisslion Group that operates in Switzerland, Serbia, Croatia and Bosnia and Herzegovina. In 1998, Swisslion Ltd. starts operating in Skopje, Macedonia, first as a general distributor, and then as a production plant (a “Greenfield” investment) with production line for jaffa cakes. In 2001, with the only purpose of accomplishing maximal productivity and operational effectiveness, the company was divided into Swisslion Ltd. Skopje with the production of confectionary products as its basic activity and Swisslion Mak Ltd. with wholesale and retail sale of the entire assortment of the Swisslion group as its basic activity. In 2005, Swisslion Ltd. Skopje expanded its activity with a new production line for salted lasting pastry. In 2006, following the example of Swisslion-Takovo, Swisslion Ltd. Skopje became a dominant owner of AD Agroplod Resen and made full revitalization and modernization of the factory.

The brands holding the “SL technology” mark are recognizable for their top quality at affordable prices. It has created renowned brands on the market with long year tradition of production and unique flavor.

Swisslion has won many awards for its brands that only confirm the top quality of the product and the value of the brand. One of the many is the Big Gold Medal for quality on the Novi Sad Fair in 2008, awarded for the Macedonian product Eurobiscuit 125g. Swisslion was also recognized as Superbrand in Macedonia in 2009.

2. Hygienic aspects of food processing in Swisslion

With its 13 years of day to day experience in the business, always fulfilling all legal requirements, requirement of the customers and of all the certified standards within the company, Swisslion has vast examples concerning food safety in general. Starting with the hygienic aspects of the building itself, continuing with the processing equipment, adding the food safety of the raw materials, internal cleaning procedures, specific education and training of the employees as well as

packaging, handling, storing and transporting of the final products, Swisslion pays special attention of each and every step during the whole food production process and a well organized system of control and action have been put in place.

2.1 Food safety certificates

Food safety systems are Swisslion's determinations since it has initiated its first production. In 2002 when the first production line for jaffa cakes was installed in Skopje, Swisslion has initiated a project with World Bank for making all the necessary alterations of its production facilities in order to be able to pursue all the food safety rules. During the following 2 years Swisslion made significant alteration in its facilities by extending the raw material warehouse, building supporting facilities for the employees etc. Later in 2006, Swisslion was the first company in Macedonia to be awarded with ISO 22000:2005 [1] certificate which was followed by implementation and certification for Kosher [6], IFS and Halal [4].

Swisslion is also considering the implementation of the FSSC standard [2] which incorporates: ISO 22000:2005 [1], IFS [3] and BRC [5], meaning that only one standard will be enough to enter the European Union super markets as well as British retailers.

The introduction of the latest world standards in Swisslion's production plants means safer products and greater export potential of the company, which is Swisslion's main goal.

2.2 Building

The hygienic aspects of a food production in general are a crucial factor for achieving business success. Satisfying the hygienic aspects of the building itself its one of the most challenging activities. Swisslion had it advantage of having a new building that only had to be reorganized and upgraded so as to satisfy all the food safety requirements. Still, Swisslion has developed annual internal inspection and annual investment plan, where all the necessary interventions in the facilities are being listed. As an example, the company has invested in air conditioning system for the production site as well as the warehouse, new water supply system from the nearest access point, intervention in the floor and special compartments for preparation of raw materials, packaging and sieving. All in all, the general condition of the buildings itself and the upgrading plan are very important in ensuring food safety of the final products.

2.3 Equipment

All of the implemented standards are based on the food safety issues and incorporate all the necessary aspects

for food safety including the hygienic side of the production process. Swisslion has paid great attention to the selection and installation of equipment, always choosing the best and well established European producers of food processing equipment, such as Sollich, Chocotech, Werner & Pfleiderer, OKA, Hastamat, Hassia etc. The equipment is followed by all the necessary certificates as well as it was commissioned by specialized team of engineers directly from the supplier. Such validation of equipment includes both testing and commissioning of the regular production as well as the cleaning procedure. One thing has to be mentioned at this point. CE mark on the equipment is necessary when deciding to purchase new equipment, still it does not satisfy the compliance with the hygiene. Swisslion pose a request to the supplier to deliver all declaration about the parts of the machine that comes with direct contact with the food. Those declarations should include compatibility of the construction materials with the products, adequate cleaning chemicals, smooth surfaces for effective cleaning, no dead areas and easy drainages. CIP (clean in place) is usually equipment made from stainless steel but the dead areas can be source of contamination. On the other hand, open areas, such as PVC conveyors, are easier to clean but can have micro cracks which can be dangerous.

For every machine it owns, Swisslion has a specialized way of sanitation which is a combination of proposed sanitation of the producer of the equipment as well as conclusions arising from the experiences during exploitation.

Additionally, Swisslion has dedicated itself to use only food grade oils for the machinery and has developed internal standard for specialized maintenance and cleaning of each part of the equipment.

2.4 Inputs

Raw materials and its quality and safety directly can influence the quality and safety of the final products. Swisslion has been very careful and conscious about selecting the raw materials to be included in its production processes. The raw materials are being tested for both quality and safety according to our internal standard. For example, the internal standard for accepting the product from the microbiological perspective is much lower than the maximum limits allowed by the law. The chemical and physical contamination is also prevented by the regularly submitted certificated from the supplier and onsite inspections. In this way, Swisslion is ensuring safe production from the very beginning of the processing.

Additionally, the procedure for accepting raw material is very rigorous taking into consideration various factors, such as adequate product specification, quality

standards, necessary certificates, available quantity, country of origin, transportation and price.

2.5 Cleaning procedures

Written cleaning procedures are not enough for ensuring hygienic production. Those written procedures have to be accompanied by proper sanitation chemicals, specialized for each surface and its specific contamination, defined time of cleaning, specified frequency as well as specially trained and experienced people to perform the cleaning. Swisslion has gone a step forward; it has developed a control system which takes place after the whole cleaning procedure. Specialized equipment for quick testing of the cleanness of the equipment using ATP residues is used as well as additional control using traditional microbiological testing of the surfaces. Does all of the above ensure complete safety of the food produced on sanitized equipment? The answer is no. The chemical contamination from the residues of the chemicals used for cleaning has to be taken into consideration. Food production companies strive to find suitable cleaning chemicals that will ensure best hygiene of the equipment still easily washable and with no dangerous residues. Swisslion has paid huge attention concerning this issue and has accepted cleaning chemicals that are effective enough to ensure microbiological and chemical free surfaces.

2.6 Training

Training of the employees is one of Swisslion's values and does not limit only to the people that are directly in the production process, but also the people from all the supporting sectors and the top management. Being able to convince the top management that the hygiene of the production process in general depends on various factors and that each and every one of them is crucial for ensuring food safety is the most important and the initial part of every process within the company. Swisslion's top management has always been included in all trainings, both internal and external, and has in dept understanding of the food safety issues and hygiene of the processes. After the approval of the top management, the supporting functions as well as the direct process employees have extensive training for all the internal procedures as well as all the legal requirements. Continuous training means being up to date with all the novelties and ensure compliance in every aspect of the business.

2.7 Packaging, storing and transportation

Last but not the least, packaging, storing and transportation have to be carefully inspected so as to ensure that the final product that will reach the

end customer will be safe. The packaging process as well as the packaging materials can be extremely dangerous since they can contaminate the product during operation but they can contaminate the product even several months after production by migration of chemicals in the packaging materials. The packaging equipment as been included in Swisslion's cleaning procedures eliminating any chemical and microbiological contamination. The metal detectors which are integral part of the packaging equipment eliminate metal physical contamination. Concerning packaging materials, regular microbiological testing of the packaging materials is performed, as for the migration, specific certificates are obtained by the suppliers.

Regarding storing of the final products Swisslion has provided proper conditions in terms of temperature, light and humidity in its warehouse and a certain pest control plan. The final products are then transported with well cleaned and air-conditioned vehicles.

2.8 Clients and exports

Finally, all of the above mentioned will be not important if the company cannot create a market for its final products. Swisslion has established its market shares both on the domestic market as well as in the foreign countries such as ex Yugoslavian countries, Bulgaria, Sweden, Denmark, France, USA, Australia etc. Swisslion is persistent in satisfying all the specific requirements of each of these customers, strongly following the rule of a "market driven company".

3. Conclusions

- Food manufactures are obliged to manage risks, taking into consideration many different factors that can cause contamination of the products.
- Having the HACCP principles as guidelines for assessment, verification and validation of systems and all the other certificates to prove consistency with the standards and the law, indeed simplifies the whole process by continuous planning, doing, checking and acting.
- Even though the food manufacturer have to ensure that its entire process does not pose any health or safety risk, still all the involved stakeholders have an obligation to minimize risks and make an effort to find the most effective way to get good results.
- Swisslion has managed to combine all the necessary activities and ensures quality and safety of its products day by day. Swisslion vision is to win the EU and world market by providing quality, healthy and safe food, while offering a wide range of food products.

4. References

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