

HAZARD ANALYSIS CRITICAL CONTROL POINT (H.A.C.C.P) SYSTEM

It is the systematic and scientific, control in hygiene and safety of food in any stage of its production and processing, beginning from the farm and ending on the consumer's table, the street vender's desk, or the Super Market's shelf. HACCP is designed from the enterprise itself with the help of specialized scientists in order to prevent or eliminate any health problems by establishing control points in every stage of production or processing, wherever critical situations may be observed.

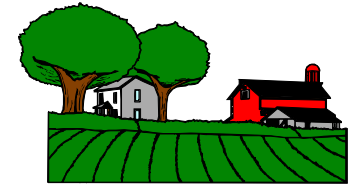
HACCP in farm



HACCP in FACTORY or SMALL INDUSTRY



HACCP in agricultural crops



HACCP in slaughterhouse



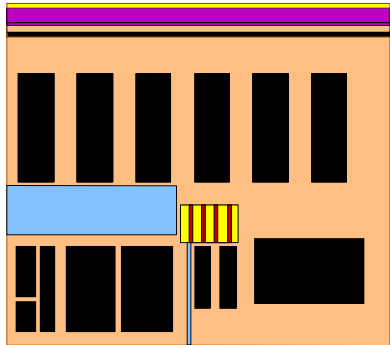
HACCP in transportation



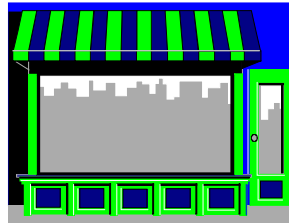
HACCP in fish catch or aquaculture



HACCP in SUPER MARKET



HACCP in RESTAURENTS



Consumer's Table



by Dr. N. Charisis

*Farmers, Breeders,
Businessmen,*

Don't forget that TASTE, PRICE and APPEARANCE/PRESENTATION are not enough to ensure the success of a product in the market,

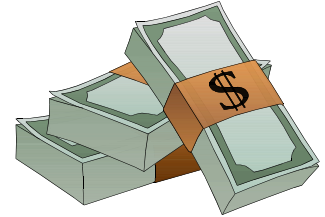
The most important factor is

THE ENSURANCE OF CONSUMER'S HEALTH

WHO IS PROFITING OUT OF THE IMPLEMENTATION OF HACCP ?

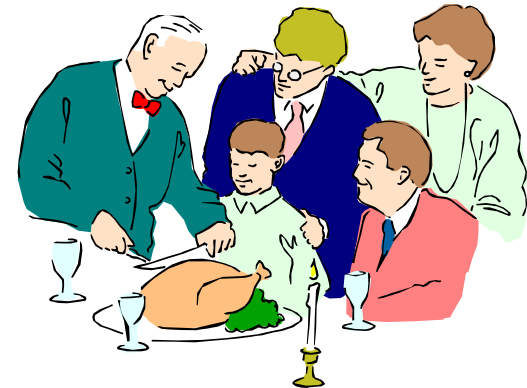
1st THE PRODUCER because of

- The reduction of cost of insurance rates due to better protection from food hazards (infections /intoxications) or other accidents.
- Increase of product's price in the market due to the increase of trust from the part of the consumers.
- Decrease of the total cost needed for the recall of inappropriate or questionable for safety lots.
- Extending business to foreign markets (especially those of the E.U.)



2nd THE CONSUMER because of

- Reduced transmission of foodborne diseases.
- Restoration of confidence as to the safety of food.
- Improvement of the quality of life.



3rd THE STATE because of

- Reduction of health care cost for citizens suffering from foodborne diseases.
- More effective control of food.



by Dr. N. Charisis



CRITICAL CONTROL POINTS or CCPs

(Are steps where control can be applied. CCPs are essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level)

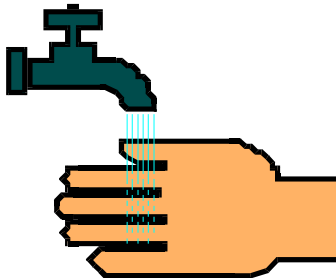
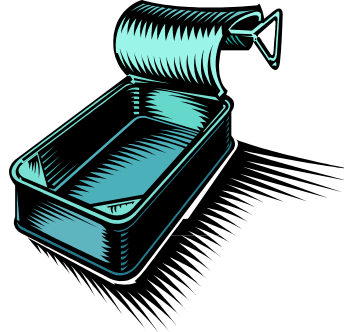
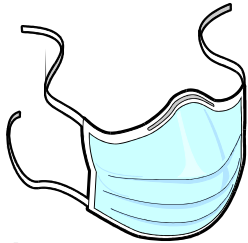
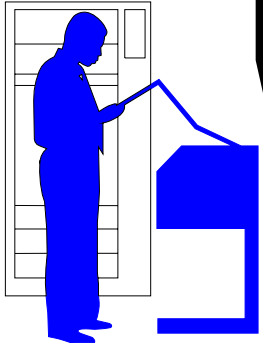
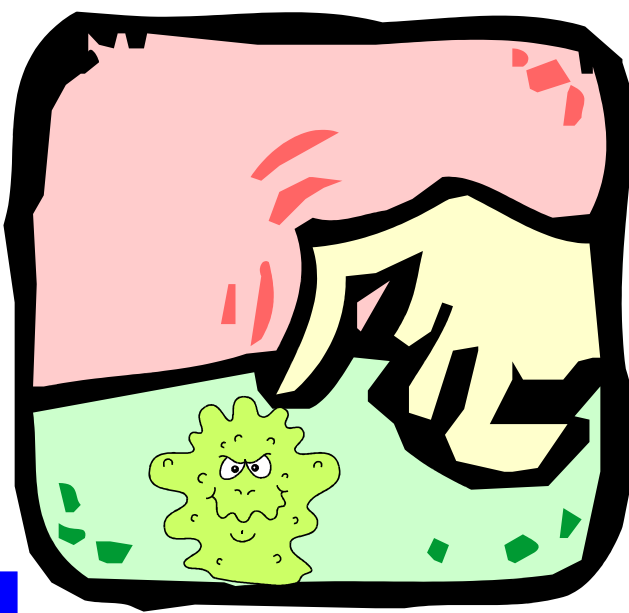
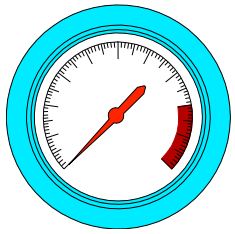
IN THE FARM

- All new animals entering the farm should originate from establishments free of communicable diseases (individual health certificates for animals and birds or bird flocks concerning egg and hatchings should be necessary). Quarantine may be useful even when is not absolutely necessary.
- Regular clinical examinations of the animals should be performed in every farm (daily or weekly veterinary examination is strongly advised).
- Random but regular, serological examinations should be carried out in all establishments.
- Cleaning and disinfecting of stables, warehouses, tools and milking machines should be carried out at regular intervals according to the suggested schedule.
- Control of insects and rodents should be programmed and carried out by professionals or under their supervision in all premises, stables and warehouses.
- Special attention should be given to health and cleanliness of the personnel (health certificates are absolutely necessary for every worker in food business).

IN AGRICULTURAL CROPS

- Water, soil or manure analyses for pathogens, toxic chemicals, pesticides, residues, radioactive material or other harmful substances may be necessary depending on the location of the fields.
- All pesticides used should be accompanied by safety certificates and guidelines for their use.

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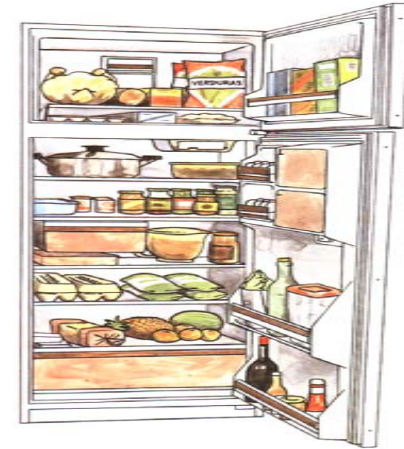
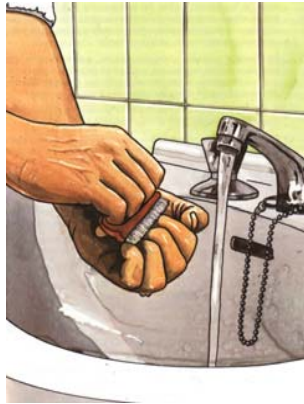
All animal (meat, milk, eggs, fish) and vegetable products (fruit and vegetables), should be properly processed in order to acquire specific properties satisfying both, the taste and the dietetic demands of the consumer, preserve their nutritional value and increase their shelf life.

Some of the Critical Control Points(CCPs) of HACCP at the Industry level:

- *All starting material should originate from sources and industries practicing HACCP (i.e. they should be accompanied by certificates of hygiene, Good Manufacturing Practice certificates and/or ISO's).*
- *Storing rooms should be clean, well ventilated and specific for each product.*
- *All equipment (especially ovens and refrigerators) should be regularly checked for their proper function.*
- *All foodhandlers should undergo regular medical examinations and possess a health certificate*
- *All working areas should be cleaned regularly according to a schedule (working surfaces, floors, machinery, trucks).*
- *Regular control of rodents and insects by means that do not pose a threat to public health.*
- *Use of plastic caps for head, mouth, hands and shoes in areas of increased risk.*
- *Regular sampling of the finished product for the presence of pathogens, toxins or foreign material hazardous to health.*
- *Auditing of the record keeping documents at regular intervals to make sure that all machinery has functioned well, all parameters at the CCPs have been recorded and that appropriate corrective actions have been made by the management to assure the safety of the finish product. Emphasis should be given to the control of time and temperature during cooking, cooling and cold storage for the reduction of the microbial agents.*

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PREVENTION OF FOODBORNE DISEASES (SOME OF THE CRITICAL CONTROL POINTS)



Through the **HACCP** system we can minimize most of biological, chemical and physical hazards originating from food. **HACCP** systems should be established by a team of plant representatives and scientists expert in HACCP and related areas (e.g. veterinarians, agriculturists, microbiologists etc). The purpose of these teams is the accumulation of data concerning the products, such as the origin of starting material, the processing and marketing methods the use of the product and the category of consumers intended to use it. Thereafter, the CCPs are defined as well as the Critical Limits for each one of them. Eventually the monitoring and reporting procedures of CCPs during working time are prescribed out and the corrective actions that should be adopted and enforced are defined.

HISTORICAL FLASHBACK AND PRESENT SITUATION

USA, 1960: The implementation of HACCP, first started in the USA, when the food industry “Pillsbury”, in cooperation with NASA developed a control system in order to produce safe food for the astronauts. At July 1996, the Ministry of Agriculture of the USA asked the meat industry to enforce the HACCP.

United Europe 1996: The implementation of HACCP was adopted in the EU with the Directive 93/43/EEC which stipulates the compulsory enforcement of HACCP in all food establishments starting from 1/1/1996 (the implementation of *ISO 9000 Systems and Regulations for the Good and Hygienic Manufacturing and Practicing* is not obligatory).

by Dr. N. Charisis