



## **Future of Indian dairy Scenario - On Quality Perceptive**

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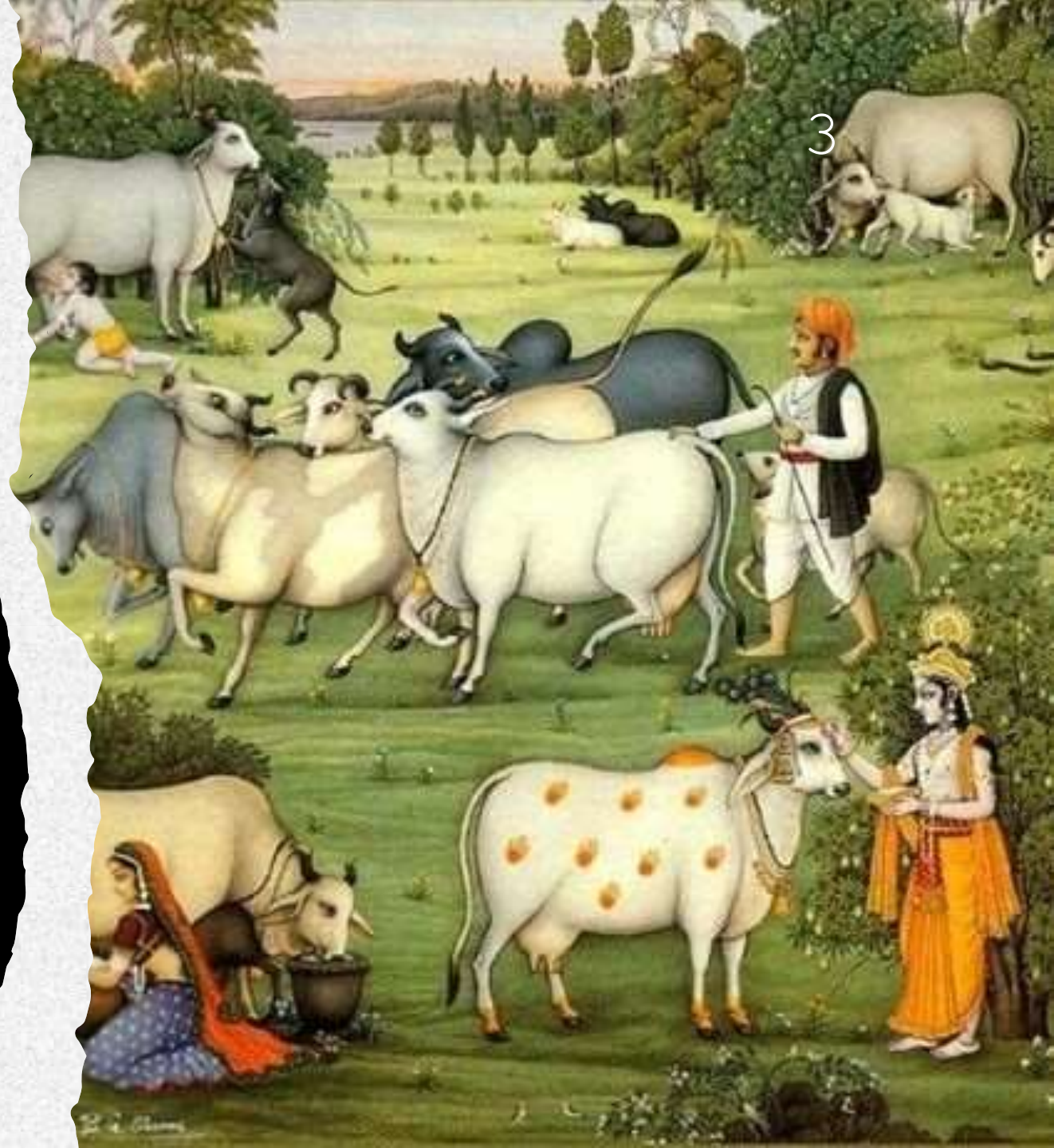


11<sup>th</sup> February  
2026  
Parul Univ  
PFNDAI  
AMUL

DR R.S. SHARMA



*Dairying has strategized,  
Holistic and Divine  
History in India*



◦ THE BUTTER MAKING INDUSTRY : OUR BEAUTIFUL LADIES DOES IT MORE EFFICIENTLY SINCE AGES





*INDIAN VS ADVANCED  
SCENARIO*

**AUTOMATIC ROTARY  
DAIRY MILKING  
PARLOUR ...GEA**

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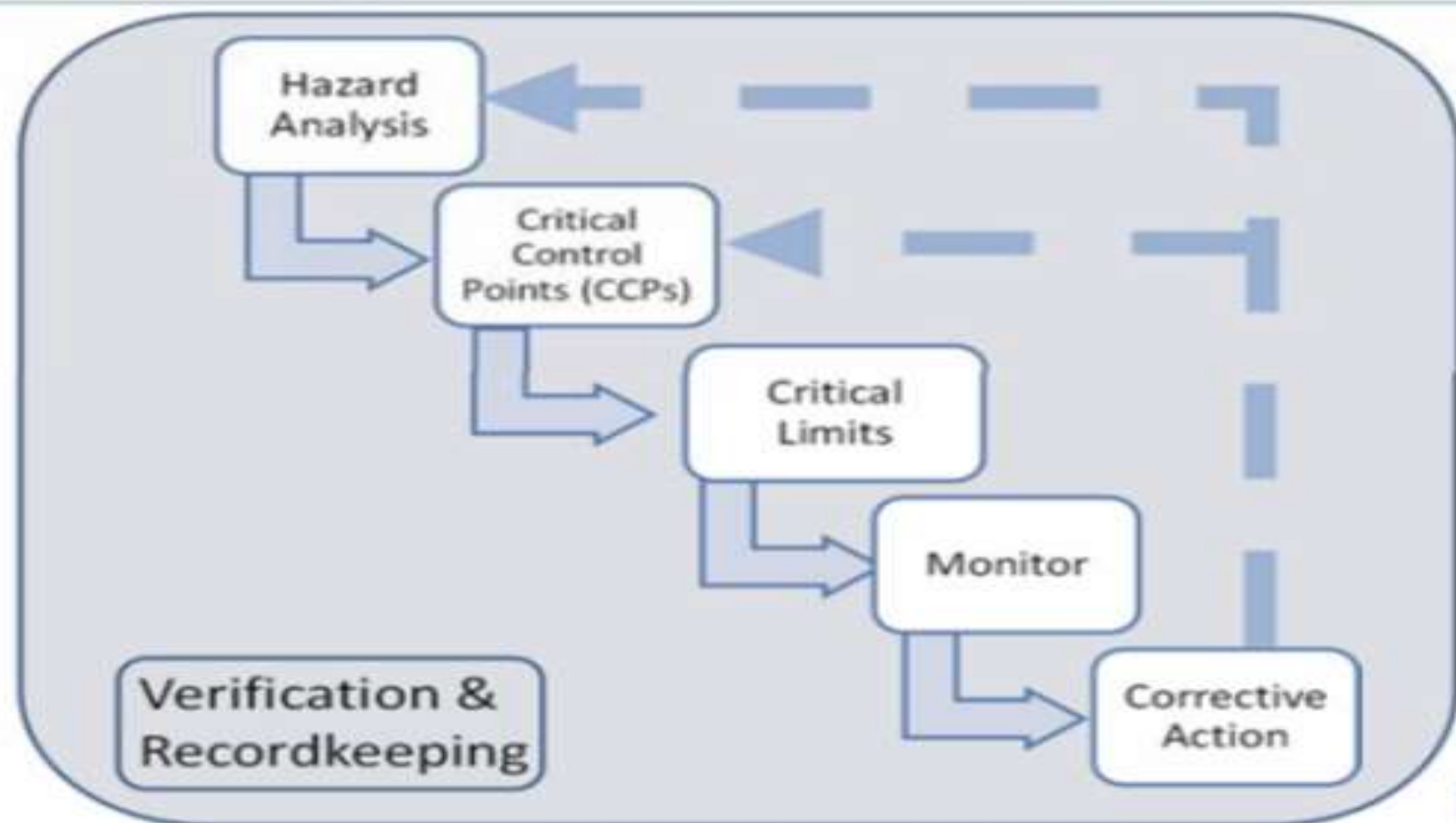


## GENERAL PRINCIPLES OF FOOD HYGIENE

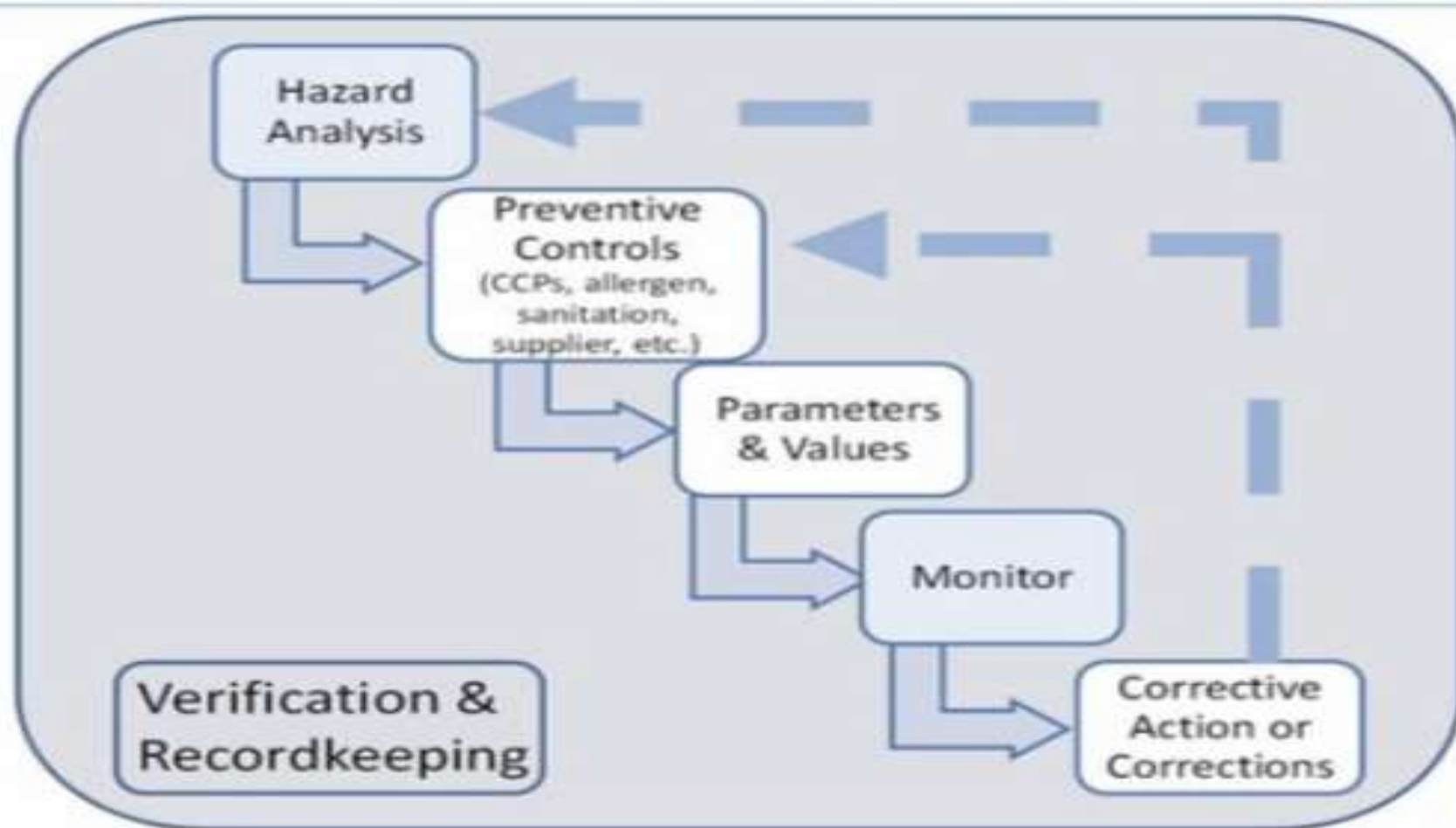
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## Historically HACCP Focuses on the Process



## Preventive Controls Include More Than HACCP





# Good Manufacturing Practices

Good manufacturing practices (GMP) are the practices required in order to conform to the guidelines recommended by agencies that control the authorization and licensing of the manufacture and sale of food and beverages, cosmetics, pharmaceutical products, dietary supplements, and medical devices.



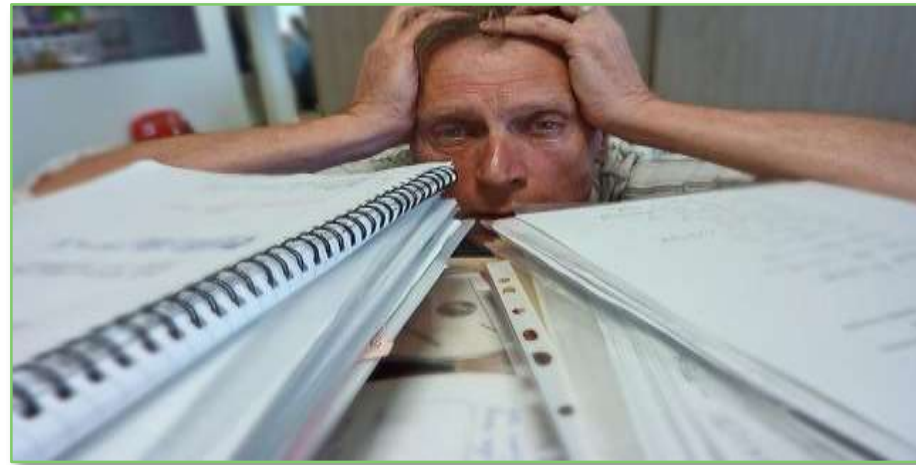
# Good Manufacturing Practices

Good Manufacturing Practices create base conditions for the hygienic production/handling of food.



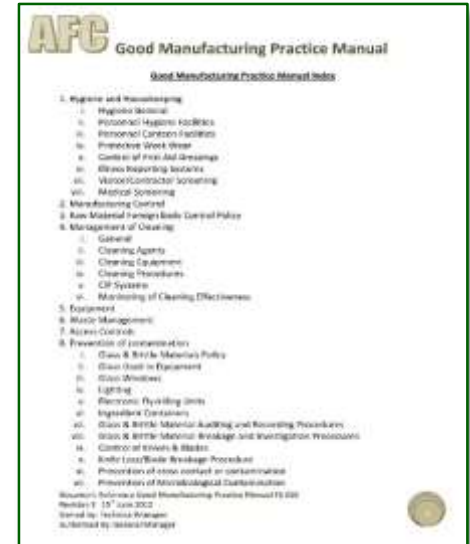
# Good Manufacturing Practices

Good Manufacturing Practices are put in place to control general hazards.



# Good Manufacturing Practices

Programmes such as  
Good Agricultural Practice  
Good Manufacturing Practice  
Good Storage Practice  
Good Distribution Practice  
Good Hygienic Practice  
must be working effectively within the  
system before HACCP is applied.



# Good Manufacturing Practices

Good Manufacturing Practices are established to assist in:

- ✓ Controlling or preventing the introduction of food safety hazards through the work environment.
- ✓ To eliminate, prevent or reduce to an acceptable level the contamination of the product(s) including cross contamination between products.
- ✓ To control and/or prevent food safety hazard levels in the finished product, ingredients and product processing environment.



# Prevention of Contamination

So what Good Manufacturing Practices are recommended to prevent contamination of food products?

# Good Manufacturing Practices

Good Manufacturing Practices include:

- i. Environment controls
- ii. Construction and layout of buildings and utilities
- iii. Layout of premises, including workspace and employee facilities
- iv. Supplies of air, water, energy and other utilities
- v. Supporting services, including waste and sewage disposal



# Good Manufacturing Practices

- vi. Suitability of equipment
- vii. Management of purchased materials
- viii. Measures for the prevention of contamination/cross-contamination
- ix. Cleaning and sanitizing
- x. Pest control
- xi. Personnel hygiene



# Good Manufacturing Practices

- xii. Control of rework
- xiii. Product recall procedures
- xiv. Warehousing
- xv. Product information and consumer awareness
- xvi. Food defense, biovigilance and bioterrorism
- xvii. Training and Supervision



# Environment controls

Potential sources of contamination from the environment should be considered. Potential sources of contamination need to be considered when deciding where to locate food establishments in conjunction with the effectiveness of any measures that might be taken to protect food.



**AFC External Standards**

**Introduction**

The company has established the standards and implemented prerequisite programmes to facilitate the production of safe and high quality food products.

**External Standards**

The Food Safety Team has determined the prerequisite standards required for external areas to reduce the risk of product contamination.

This annex means that risks from local activities and the site environment are controlled and external areas and buildings/building fabric are maintained.

Prerequisite standards for external areas are outlined in this document.

Location	
1	Food facilities are located away from areas which present a potential risk of contamination.
2	Food facilities are located away from areas where, after considering protective measures, it is clear that there will remain a risk to food safety.
3	Food facilities are located away from environmentally sensitive areas and industrial activities which pose a serious threat of contaminating food.
4	Food facilities are located away from areas subject to flooding where sufficient safeguards are provided.
5	Food facilities are located away from areas prone to infestations of pests. Vegetation is maintained or removed.
6	Food facilities are located away from areas where water, animal waste or liquid, cannot be removed effectively.
7	Periodic assessment of potential food safety impact from air to local environment is performed.

Site	
1	Site areas including footpaths, roads, yards, loading and parking areas are suitably surfaced, maintained and have adequate drainage to prevent the accumulation of water.
2	Adequate security arrangements are in place with restricted access to the site and control of visitors.
3	Site boundaries are clearly marked.
4	Pest control of the periphery is in place.
5	Ground and ground areas are regularly treated and well maintained with a clearance of 100mm between vegetation and external walls.

Buildings	
1	All buildings are designed, constructed from durable material and impervious to prevent any food safety hazards associated with the food manufacturing process.
2	All buildings including temporary structures are designed, located, constructed and maintained to protect against the entrance and harborage of pests and to prevent food contact.
3	Structures are located and designed to prevent accidental damage.
4	Foundation and floor finish areas are separate.
5	Foundations are at least 600mm deep and sufficient to prevent rodents from burrowing underneath.
6	Access points for pests is prevented by ensuring windows that open are protected by insect screens.
7	Roofing gables for pests is prevented by screening, air break and seal ducts.
8	Structural walls are protected to prevent rodents from climbing up them.
9	All congenial points are sealed to prevent rodent entry across the roof.
10	All doors are fitted to prevent rodent access.
11	All points where services pass through the foundations are permanently sealed.
12	Site drains have a maximum hole size of 5mm to restrict rodent access.
13	Design and construction minimises the accumulation of debris.
14	All roofs are designed, constructed from durable material and maintained to prevent any food safety hazards. This includes address drainage measures to prevent leaks.
15	Temporary structures constructed during building work or refurbishment are designed and located to avoid pest harborage, and contamination of products.
16	Roofs are associated with temporary structures and loading machines are exempt and controlled.

**External Walls**

1	Use of adhesive thickness to resist traffic impact.
2	Site adequately sealed.
3	Cracking is not taken to greatest level because of risk of damage and refraction.
4	Materials are selected to resist maintenance as a minimum.
5	Temperature control and protection from wind screen.
6	Temperature control requirements are considered at the design stage including the required insulation performance of a wall particularly for cold storage.

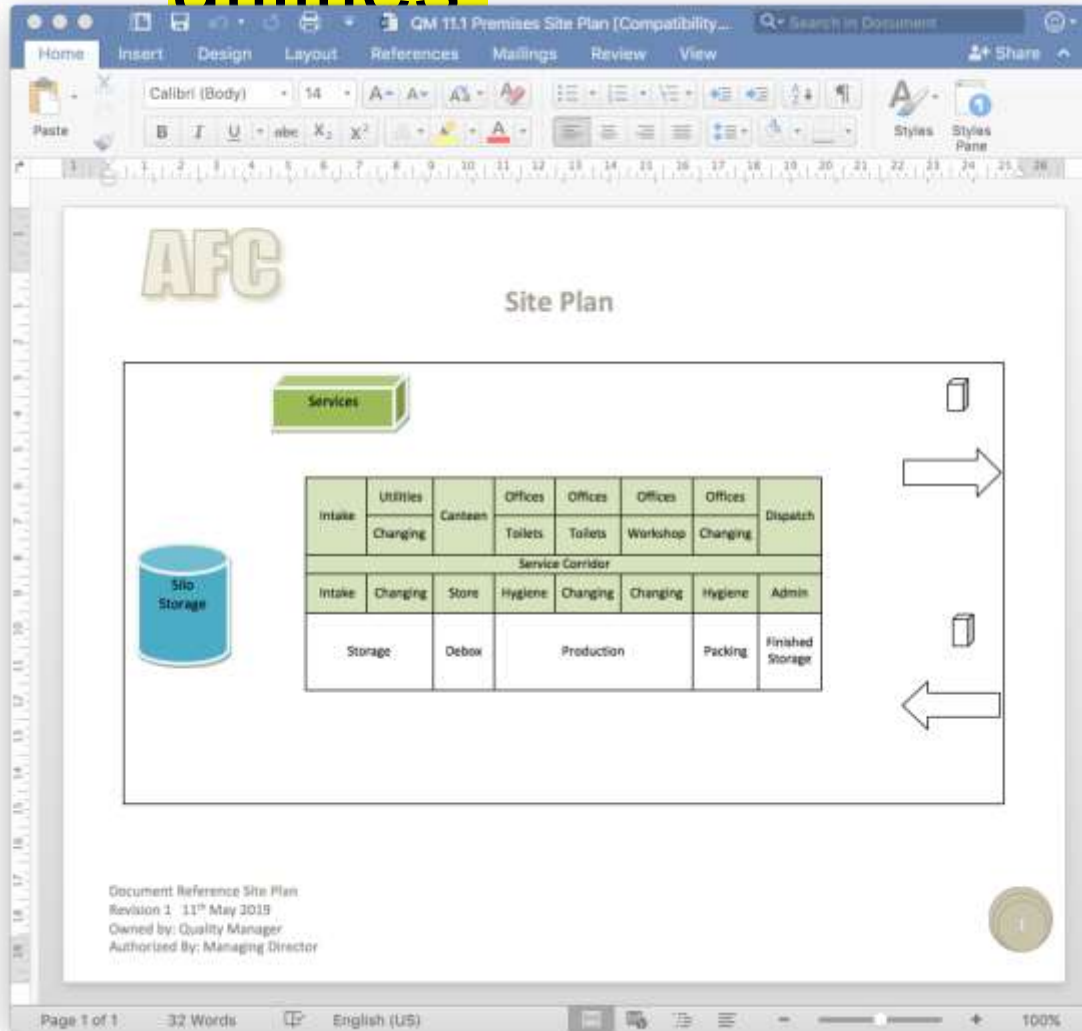
**Responsibility**

The Engineering Manager ensures that resources is provided to ensure that the site external standards are maintained effectively.

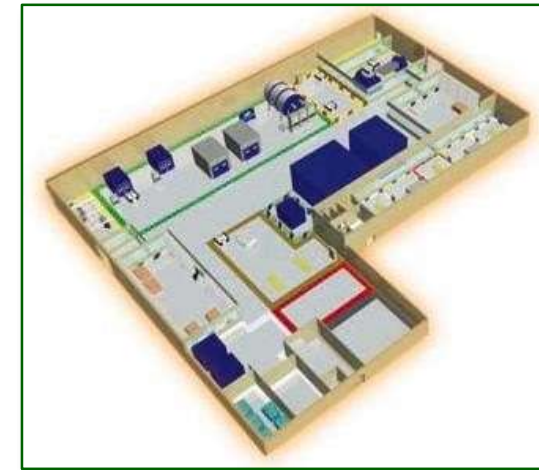
The General Manager is responsible for approving the measures required to provide the site external standards that is necessary in order to meet the requirements of the Food Safety Management System.

Document Reference: External Standards 020 A.1  
Revision 1, 17 August 2020  
Owned by: Technical Manager  
Authorised by: General Manager

# Construction and layout of buildings, workspace and utilities



The fabric of site, buildings and facilities should be applicable



# Internal Structure

Internal Structures should be soundly built of durable materials and be easy to maintain, clean and where appropriate, able to be disinfected.



# Personnel Facilities



Personnel hygiene facilities should be available to ensure that an appropriate degree of personal hygiene can be maintained and to avoid contaminating food.

Facilities should include:

- adequate means of hygienically washing and drying hands, including wash basins and a supply of hot and cold (or suitably temperature controlled) water
- lavatories of appropriate hygienic design
- adequate changing facilities for personnel

Facilities should be suitably located and designated.

# Staff Facilities

There should be Facilities for:

- ✓ Changing
- ✓ Storage of personal items
- ✓ Segregation of personal items from work clothing
- ✓ Hand-washing
- ✓ Toilets
- ✓ Smoking areas
- ✓ Eating/Drinking



# Supplies of air, water, energy and other utilities



## Control & Monitor:

- ✓ The water supply
- ✓ Water distribution
- ✓ Monitoring of gases and steam

# Water Supply

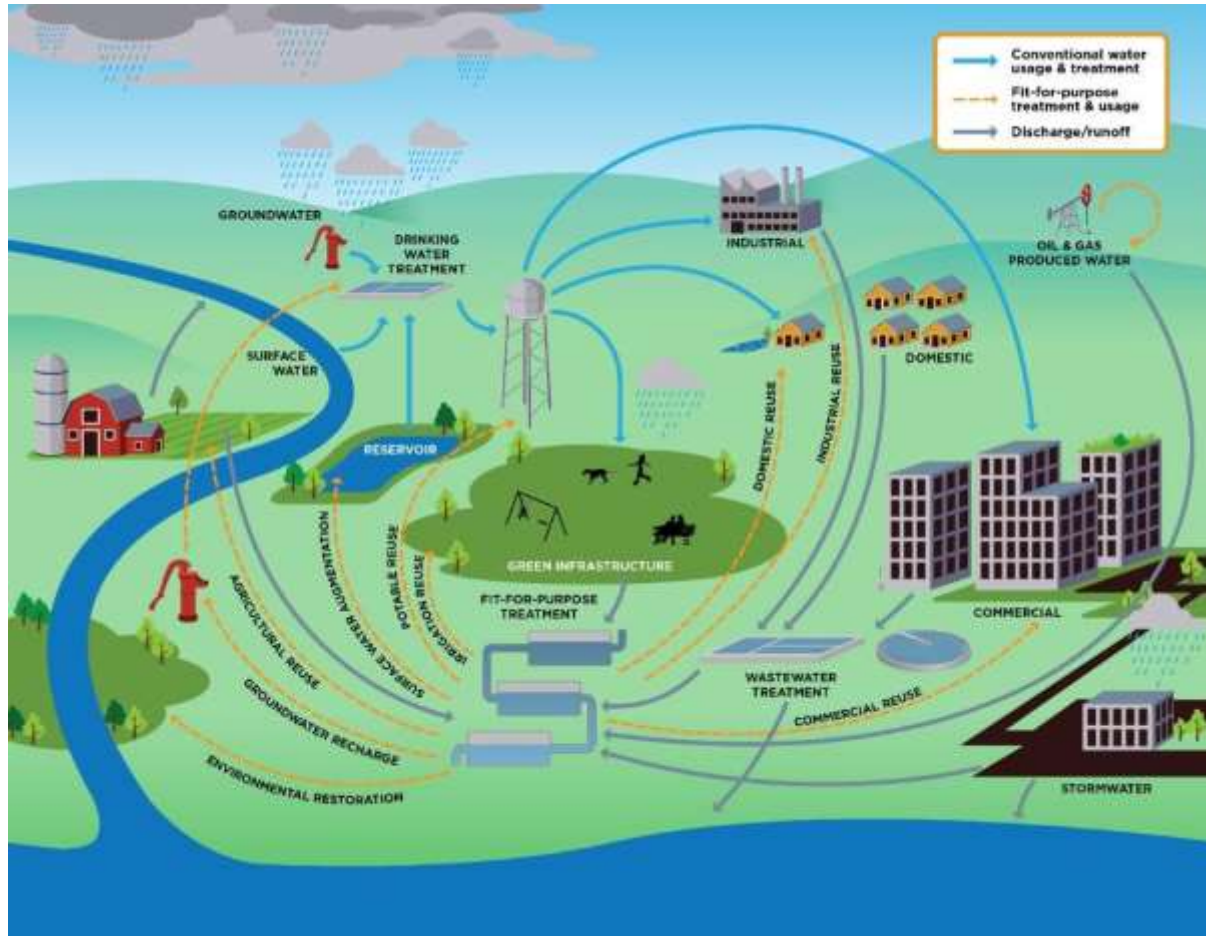


An adequate supply of potable water with appropriate facilities for its storage, distribution and temperature control, should be available whenever necessary to ensure the safety and suitability of food.

Potable water should be as specified in the latest edition of WHO Guidelines for Drinking Water Quality, or water of a higher standard.

Control Non-potable water.

# Water



Only potable water, should be used in food handling and processing. Water recirculated for reuse should be treated and maintained in such a condition that no risk to the safety and suitability of food results from its use. The treatment process should be effectively monitored.

# Water



When water is used as an ingredient potable water should be used wherever necessary to avoid food contamination.

Ice should be made from water that meets the conditions of Water Supply.

Ice and steam should be produced, handled and stored to protect them from contamination.

Steam used in direct contact with food or food contact surfaces should not constitute a threat to the safety and suitability of food.



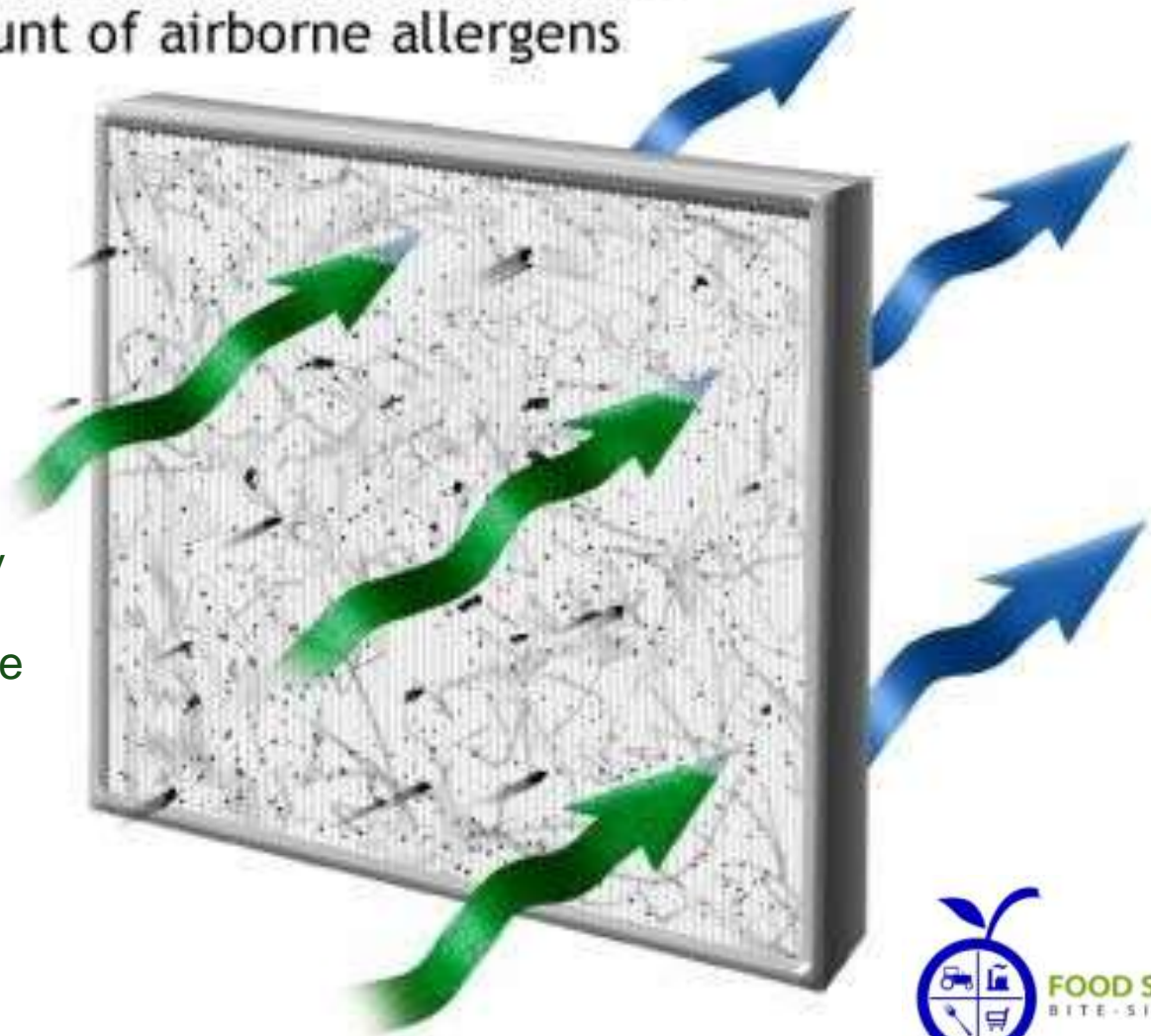


# Air Quality and Ventilation

A HEPA air filter can reduce the amount of airborne allergens

- Adequate means of natural or mechanical ventilation should be provided, in particular to:
- minimize air-borne contamination of food, for example, from aerosols and condensation
  - control ambient temperatures
  - control odours which might affect the suitability of food
  - control humidity, where necessary, to ensure the safety and suitability of food

Ventilation systems should be designed and constructed so that air does not flow from contaminated areas to clean areas.





# Lighting

Adequate natural or artificial lighting should be provided to enable the undertaking to operate in a hygienic manner.

Where necessary, lighting should not be such that the resulting colour is misleading.

The intensity should be adequate to the nature of the operation.

Lighting fixtures should, where appropriate, be protected to ensure that food is not contaminated by breakages.



# Prevention of Contamination

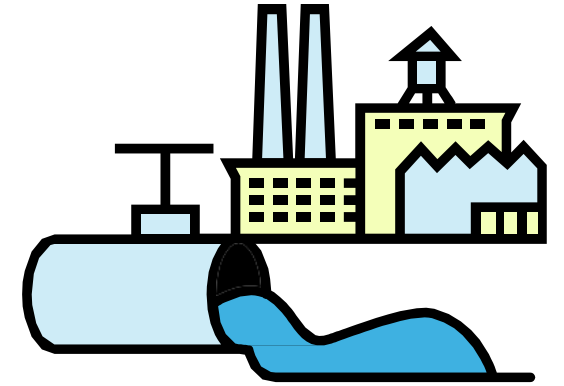


Waste Control

# Drainage and Waste Disposal

Adequate drainage and waste disposal systems and facilities should be provided.

Systems should be designed and constructed so that the risk of contaminating food or the potable water supply is avoided.



# Supporting services, including waste and sewage disposal

Systems should be in place to minimise the accumulation of waste including arrangements to control the collection, collation and disposal of waste material.



# Prevention of Contamination



Waste is likely to be contaminated and so should not be allowed to accumulate.

Food handlers should always wash their hands after handling waste.

Lids should be kept closed on waste containers as waste attracts pests.

# Waste Control



Provision must be made for the removal and storage of waste.

Waste stores must be kept appropriately clean.

# Supporting services, including waste and sewage disposal

Containers for waste, by-products and inedible or dangerous substances, should be specifically identifiable, suitably constructed and, where appropriate, made of impervious material.

Containers used to hold dangerous substances should be identified and, where appropriate, be lockable to prevent malicious or accidental contamination of food.



# Management of Surplus Food & Products for Animal Feed

Surplus customer branded products should be disposed of as per customer requirements and the brand name removed from the products whilst under control of the factory. Products intended for animal feed should be segregated, protected from contamination.



# Suitability of Equipment



# Equipment

Equipment should:

- ✓ permit maintenance and cleaning
- ✓ function as intended
- ✓ be hygienic



# Equipment



# Management of Purchased Materials

Consider risk of:

- allergen contamination
- foreign-body risks
- microbiological contamination
- chemical contamination
- substitution or fraud

Supplier Risk Assessment Calculator

Score	Supplier Category/Rating	Severity of Risk	Risk Score	Rating	What should I do?
5	Final Ingredient/Contract Packer	Catastrophic - death or large number of serious injuries	25	Extreme	Close Surveillance of Supplier and Material Required
4	Raw Ingredient/High Risk Service	Major - serious injury, extensive injuries	18 - 20	High	Supplier and Material/Service Monitoring Required
3	Contact Packaging	Moderate - medical treatment required	8 - 15	Moderate	Material/Service Monitoring Required
2	Non Contact Packaging	Minor - first aid treatment required			
1	Low Risk Service	Minor - no injuries	< 8	Low	Prerequisites on Goods In/Service Provision Sufficient

Supplier Number	Supplier	Materials/ Service Supplied	Supplier Category	Identify the Risks	List the Current Controls in Place	S	C	S	S	Primary Control	Secondary Control	Primary Control
1	A	Chocolate Topping	Final Ingredient	Salmonella Present	Not Further Processed on Site	5	5	20	20	Supplier Audit every 6 months	Positive Release by Site prior to Use	Supplier Audit every 6 months
2	B	Flour for Baking	Raw Ingredient	Salmonella Present	Further Processed on Site	4	4	16	16	Supplier Audit every 2 Years	Certification to GFSI Approved Standard	Supplier Audit every 2 Years
3	C	Contract Scones	Contract Packer	Salmonella Present	Name Currently	5	5	25	25	Supplier Audit every 6 months	Certification to GFSI Approved Standard	Supplier Audit every 6 months
4	D	Cake Tray	Contact Packaging	Foreign Bodies	Packaging Rinsed and Inverted	3	4	12	12	Certification to GFSI Approved Standard	Supplier Assurance Questionnaire	Supplier Audit every 6 months
5	E	Cardboard Box	Non-Contact Packaging	Yeasts & Moulds	No access to Production Facility	1	1	1	1	Supplier Assurance Questionnaire	COC with each Delivery	Supplier Assurance Questionnaire
6	F					1	5	5	5	Supplier Audit every 6 months	Supplier Audit every 6 months	Supplier Audit every 6 months

Supplier Control Measures Required

# Supplier and Raw Material Approval

Valid certification to an applicable GFSI benchmarked standard.

The scope of the certification should include the raw materials purchased.



# Management of purchased materials

Where a supplier audit is completed by a 2nd or 3rd party you should be able to demonstrate the competency of the auditor, confirm the scope of the audit and obtain and review a copy of the full audit report.



# Packaging

Packaging design and materials should provide adequate protection for products to minimize contamination, prevent damage, and accommodate proper labelling.

Packaging materials or gases where used must be non-toxic and not pose a threat to the safety and suitability of food under the specified conditions of storage and use.

Where appropriate, reusable packaging should be suitably durable, easy to clean and, where necessary, disinfect.



# Specifications

**AFC**

## Whole Milk Summer Fruit Bio Yoghurt 100g

Manufacturing Site	
Contact Details	
Telephone	
Fax	

Product Description	
A whole milk stirred fruited bio yogurt with a creamy mixed berry flavour	
Organoleptic	
Appearance	Mauve in colour, smooth, shiny yoghurt with blackberry & raspberry pieces
Aroma	A fresh fruity mixed berry aroma
Flavour	Sweet creamy fresh mixed berry flavour with a slight lactic note

Ingredients	
Potable Water, Whole Milk Powder, Sugar, Blackberries (3.75%), Raspberries (3.75%) Summer Fruit Syrup [(water, glucose syrup, thickeners (modified starch, carrageenan), black carrot juice concentrate, <u>woodberry flavor</u> , sodium citrate, potassium sorbate)], Milk Protein, Skim Milk Powder, Stabiliser (acetylated distarch adipate, <u>gelatin</u> , guar gum, <u>pectins</u> ), Yoghurt Culture, Bifidobacterium, Lactobacillus acidophilus	
Allergens	
Milk	

Processing, Manufacturing + Packing Parameters	
1. Mix and standardise the base	Butterfat = 3.5 – 3.7% Total Solids = 20.0 – 21.0
2. Homogenise:	200 Bar

Document Reference Whole Milk Summer Fruit Bio Yoghurt 100g Specification FPSPEC 001  
Revision 1 1<sup>st</sup> August 2018  
Owned by: Technical Manager  
Authorised By: General Manager



**AFC**

## Whole Milk Summer Fruit Bio Yoghurt 100g

3. Pasteurise at:	90°C - 95°C for 300 Sec
4. Cool to give an incubation temperature of:	Short Set = 42°C ± 2°C
5. Incubate	pH = 4.3 ± 0.1
6. Filter	<1mm
7. Cool	10 – 20 °C
8. Dose Summer Fruit Conserve	15% +/- 1%
9. Fill	10 – 20 °C
10. Coding	D.O.P + 21 Days
11. Cool the yogurt	1°C – 5°C
12. QA Release – Start of Run & End each Pallet	1°C – 5°C pH < 4.5 Enteroc < 10/g

Weight Control					
Packed as a 4 pack on an XYZ filling machine but individually bar coded and snap into 4 pots					
Declared Weight (g)	Target Average Weight (g)	Lower weight limit (g)	Upper weight limit (g)	Approximate Weight of Packaging (g)	Frequency
100	100	95	105	6	Start and end of run plus half hourly

Coding			
Use By	DOP + 21	Minimum Life for dispatch	DOP + 7

Code	Item	Supplier
F 001	Fruit Pulp Summer Fruits	

Document Reference Whole Milk Summer Fruit Bio Yoghurt 100g Specification FPSPEC 001  
Revision 1 1<sup>st</sup> August 2018  
Owned by: Technical Manager  
Authorised By: General Manager



**AFC**

## Whole Milk Summer Fruit Bio Yoghurt 100g

P 001	Lid Summer Fruits (Adult Yoghurt)	
P 002	Base Web for Fruit Yoghurt 100	

QA Parameters					
Product	pH	BF	TS	Temperature	Frequency
Finished Product	4.0 – 4.5	2.95 – 3.15%	24.5 - 25.5	< 5 °C	Each Pallet

QA Positive Release Parameters DOP + 2				
Product	pH	Enterobacteriaceae	Temperature	Frequency
Finished Product for Release	4.0 – 4.5	< 10/g	< 5 °C	Each Pallet

Finished Product Microbiological Standards					
	Enteroc.	E.coli	Yeasts & Moulds	Salmonella	Listeria
Target	<10/g	<10/g	<500/g	Absent in 25g	Absent in 25g
Frequency	Each Batch	Each Batch	Each Batch	Product tested monthly on a rotating schedule	

Document Reference Whole Milk Summer Fruit Bio Yoghurt 100g Specification FPSPEC 001  
Revision 1 1<sup>st</sup> August 2018  
Owned by: Technical Manager  
Authorised By: General Manager



# Measures for the prevention of contamination



## Physical and Chemical Controls

# Physical and Chemical Controls



Systems should be in place to prevent contamination of foods by foreign bodies such as glass or metal shards from machinery, dust, harmful fumes and unwanted chemicals.

# Physical Controls



- Containers
- Based on risk assessment, procedures shall be implemented to minimise foreign-body contamination originating with the packaging container.





# Physical Product Contamination

## Control

The risk of product contamination can be reduced or eliminated by the effective use of equipment to remove or detect foreign bodies.

Typical equipment to be considered may include:

- ✓ Filters/sieves
- ✓ Metal detection
- ✓ Magnets
- ✓ Optical sorting equipment
- ✓ X-ray detection equipment



# Physical Product Contamination Control

## Metal Detectors and X-Ray Equipment

Metal detection equipment should be in place unless risk assessment demonstrates that this does not improve the protection of final products from metal contamination.



# Other Potential Physical Contaminants



## AUTO CHEESE BLOCK DEBOXING

The Auto Cheese Block Deboxing System removes the corrugate on 40 lb. (20 kg) cheese blocks up to 12 blocks per minute. The system can reduce labor, improve safety and eliminate ergonomic issues typically seen with manual deboxing. The machine was designed with limited space in mind. A fully automatic robotic system removes cheese blocks from wood pallets with the option of restacking on a plastic pallet for clean room acceptability.

- Deboxes up to 12 blocks per minute
- Fully guarded machine with safety interlocks on all doors
- Fully automatic machine with Allen Bradley or Siemens controls
- Eliminates ergonomic issues typically seen with manual deboxing
- Reduces labor costs over manual deboxing



# Chemical Controls

Chemicals should be securely stored away from food and packaging.



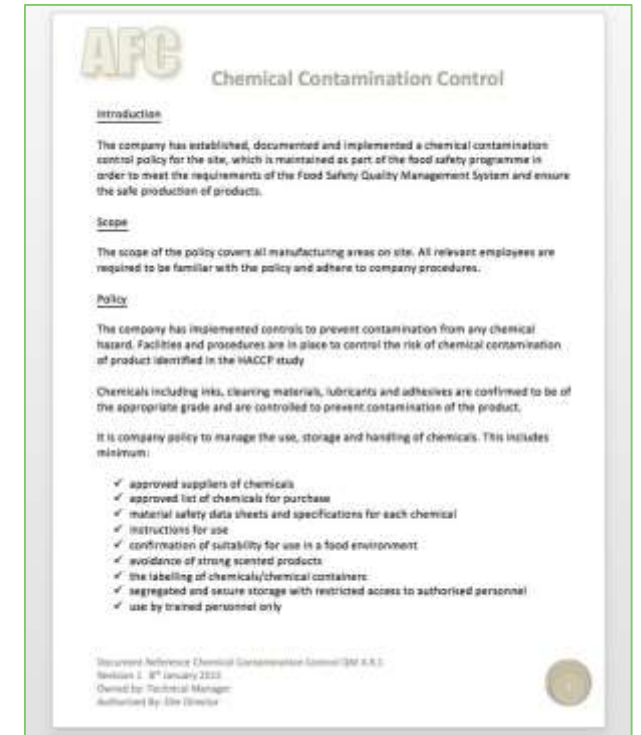
# Potential Chemical Contamination

Food handlers need to be alert to the possibility of chemical contamination in the form of cleaning fluids, pesticides, and so on. Instructions for use and storage of chemicals must be followed.



# Chemical Contamination Control

Storage and handling of non-food chemicals.  
Restriction and control of chemicals with strong scents or the potential to taint.



# Prevention of Contamination

## Maintenance



# Maintenance



Maintenance work should be carried out outside of production hours.



# Maintenance



Where there is a risk, maintenance chemicals such as lubricants should be food grade.



# Prevention of Contamination

## Operational Controls



### SECTION V - CONTROL OF OPERATION

#### OBJECTIVE:

To produce food which is safe and suitable for human consumption by:

- formulating design requirements with respect to raw materials, composition, processing, distribution, and consumer use to be met in the manufacture and handling of specific food items; and
- designing, implementing, monitoring and reviewing effective control systems.

#### RATIONALE:

To reduce the risk of unsafe food by taking preventive measures to assure the safety and suitability of food at an appropriate stage in the operation by controlling food hazards.

#### 5.1 CONTROL OF FOOD HAZARDS

# Time and Temperature Controls

Inadequate food temperature control is one of the most common causes of food borne illness or food spoilage.

Such controls include time and temperature of cooking, cooling, processing and storage.

Systems should be in place to ensure that temperature is controlled effectively where it is critical to the safety and suitability of food.



# Specific Process Steps

Other steps which contribute to food hygiene could include:

- thermal processing
- irradiation
- drying
- chemical preservation
- vacuum or modified atmospheric packaging



# Management Of Allergens

- A system must be in place for the management of allergenic materials which minimises the risk of allergen contamination of products and meets legal requirements for labelling in the country of sale.

**AFC** Allergen Management  
The following colours identify allergens on site

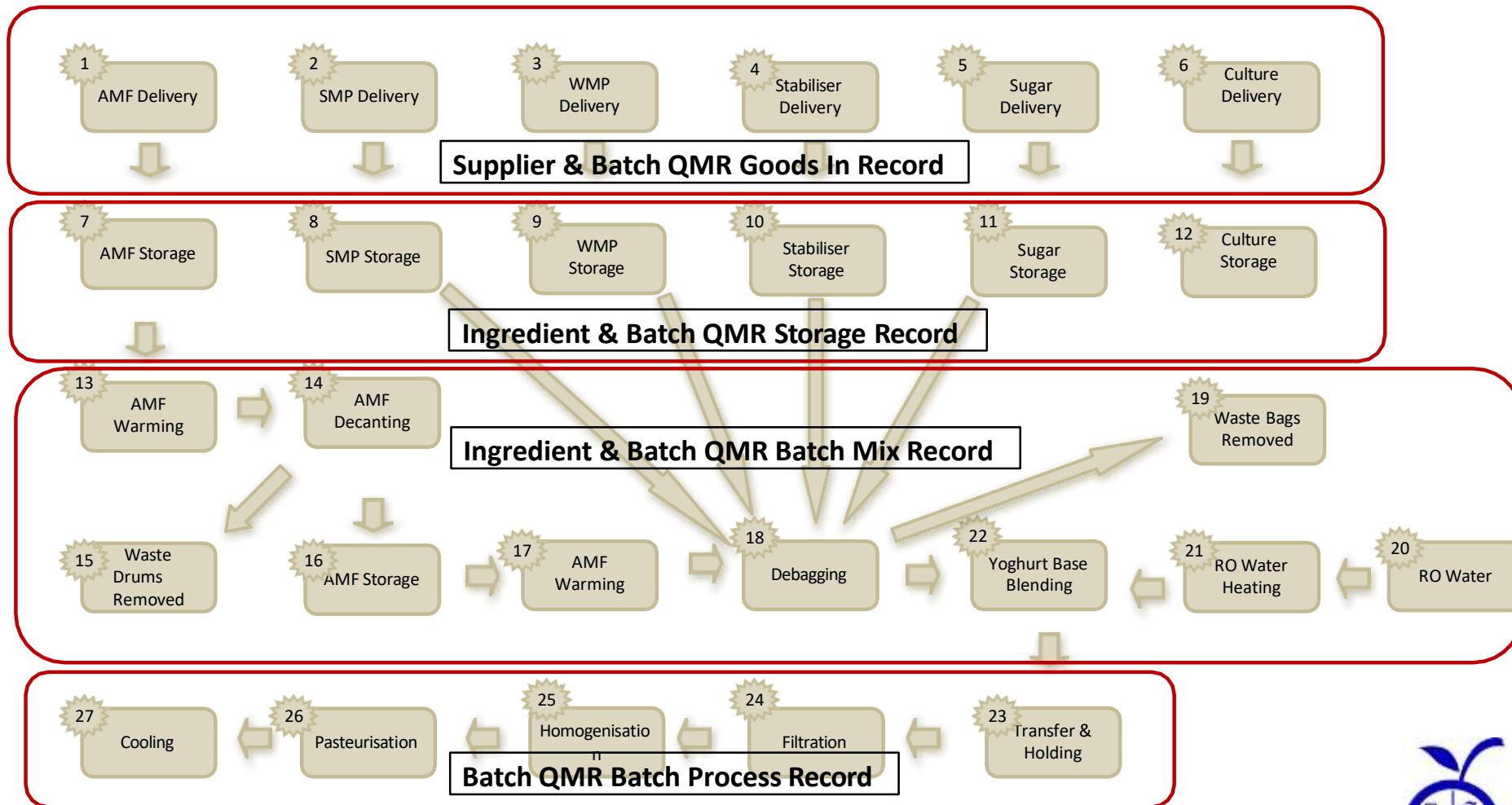
Peanuts
Nuts
Cereals
Milk
Eggs
Fish
Shellfish
Soya
Sesame seeds
Celery/Celeriac
Mustard
Lupin
Sulphur dioxide & sulphites

Document Reference: Ingredient Allergen Colour Coding  
Revision 1, 1<sup>st</sup> August 2018  
Owned by: Technical Manager  
Authorised By: General Manager



# Traceability

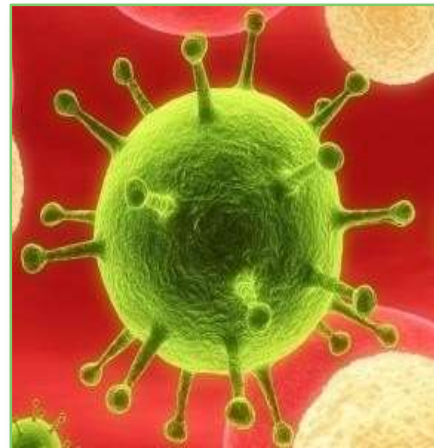
## Traceability System Diagram



# Microbial Cross-Contamination

Pathogens can be transferred from one food to another, either by direct contact or by food handlers, contact surfaces or the air.








Raw, unprocessed food should be effectively separated, either physically or by time, from ready-to-eat foods, with effective intermediate cleaning and where appropriate disinfection.



# Cleaning and Sanitizing

**AFC** Sample Cleaning Procedure

**Food Contact Parts – Non CIP Items**

<u>Application:</u> Surface cleaning				<u>Typical residues:</u> Mixture of fats, protein, food residues.
<u>Specific application area:</u> Food contact hoses and machine parts				<u>General information:</u> Clean after production run using wash bath.
<u>Cleaning frequency:</u> Daily after production				
Cleaning Procedure & Chemicals	°R	°C	min.	Notes
 <b>Cleaning Preparation</b>				Remove products from the production area. Remove pallets, trays and packaging.
 <b>Remove coarse soil</b>				
 <b>Pre-rinsing - Water</b>		40 - 60		Thoroughly rinse all parts inside and out with hot water.
   				

Document Reference Sample Equipment Cleaning Procedure  
 Revision 1 29<sup>th</sup> September 2012  
 Owned by: Production Supervisor  
 Authorised By: Production Manager

# Cleaning Facilities

- Adequate facilities, suitably designated, should be provided for cleaning food, utensils and equipment. Such facilities should have an adequate supply of hot and cold potable water where appropriate.



# Cleaning and Disinfection

What is the function of cleaning?



# Disinfection/Sterilization

- Disinfectants are chemicals that destroy microorganisms
- Sterilization: Surfaces and equipment are sterilized with heat after normal cleaning.



# Why Clean?

- ✓ to reduce the risk of bacterial contamination
- ✓ reduce the risk of food poisoning and spoilage
- ✓ reduce/eliminate problems from pests



# Cleaning in the Factory

Floors, ceilings, walls, drains, pipes and all other surfaces must be kept in a clean hygienic condition.



# Monitoring of Sanitation

Sanitation systems should be monitored for effectiveness, periodically verified by means such as audit pre-operational inspections or, where appropriate, microbiological sampling of environment and food contact surfaces and regularly reviewed.

Note:

The use of ATP swabbing is now an effective method of monitoring cleaning effectiveness.



# Acceptable and Unacceptable Cleaning Performance



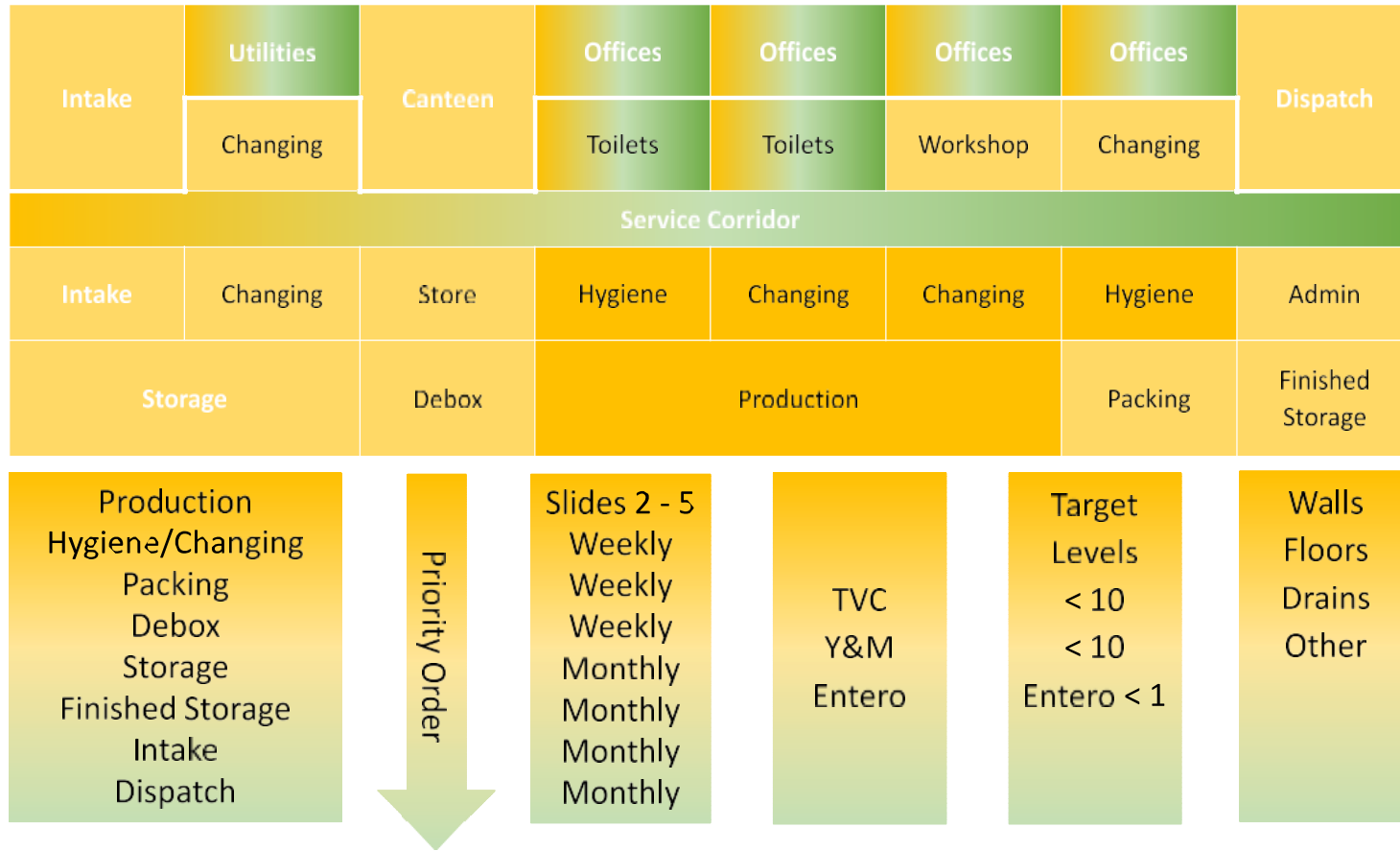
Food Contact Surface – Filler Nozzle  
Monitoring method:  
ATP Swab after cleaning before Start  
Up



**Action Limits:**  
< 10 rlu – Okay to Start Up  
10 – 30 rlu – Sanitise and Reswab  
> 30 rlu – Full Clean and Reswab

# Cleaning and Sanitizing

## Environmental Monitoring



# Environmental Monitoring

**Open product areas:**  
High risk (chilled and frozen)  
High care (chilled and frozen)  
Ambient high care  
Low risk  
Flow & entrances to the above areas

**Enclosed product areas:**  
Warehouses  
Storerooms  
Flow & entrances to the above areas

**Non-product areas:**  
Canteens  
Laundries  
Offices  
Flow & entrances to the above areas

Priority Order for Environmental Sampling

## Environmental Monitoring

# Environmental Monitoring



- Food Contact Surface – Inside Storage Tank
- Food Contact Surface – Filler Nozzle
- Food Contact Surface – Foil Lidding
- Non-Food Contact Surface – Inside Door Filler Cabinet
- Non-Food Contact Surface – Floor under Filler
- Non-Food Contact Surface – Outside Storage Tank
- Non-Food Contact Surface – Drain
- Non-Food Contact Surface – Wall
- Non-Food Contact Surface – Floor near Entrance
- Non-Food Contact Surface – Cleaning Equipment
- Non-Food Contact Surface – Hand Wash Sink

# PREVENTION OF CONTAMINATION \_ Common Pests



Rats Mice



Cockroaches  
Flying Insects



Birds

# Pest Control



As well as carrying bacteria, rodents can gnaw their way into materials and can cause substantial damage to buildings.



# Pest Control



It is important to prevent access to pests.



# Pest Control

Adequate measures in place to prevent birds from entering buildings or roosting



# Pest Control



Pests pose a major threat to the safety of food. Pest infestations can occur where there are breeding sites and a supply of food.

The whole site should have an effective preventive pest management programme in place to minimise the risk of infestation and resources shall be available to respond rapidly to any issues which occur to prevent risk to products.

# Pest Control

**FEN TIGER PEST CONTROL** **Service Report**

Date of treatment: 22 April 2015 Call Type: Follow Up

Name/Company: Berkshire Farm  
Address: 25 Drury Lane

Pest Activity Found: Rats/Mice Email:

Area Of Inspection: Inside and outside farm buildings

Inspection Findings: Continued mouse activity inside fan tunnel and fan room. Rat activity along front of barn with new tunnels made.

Pest Risks Found:  
✓ Stock Damage    ✓ Contamination    ✓ Legal Action  
✓ Reputation    ✓ Building Damage    ✓ Safety/Welfare  
✓ Disease Risks    ✓ Others

Action Taken: Reset mouse traps inside fan tunnel. Cleaned and inspected bait stations. No re baiting needed externally. Baited inside fan tunnel in cardboard boxes and in trays.

Product Used/ Quantity: 120g x Vertox Whole Wheat  
100g Bromadiolone



# Pest Control

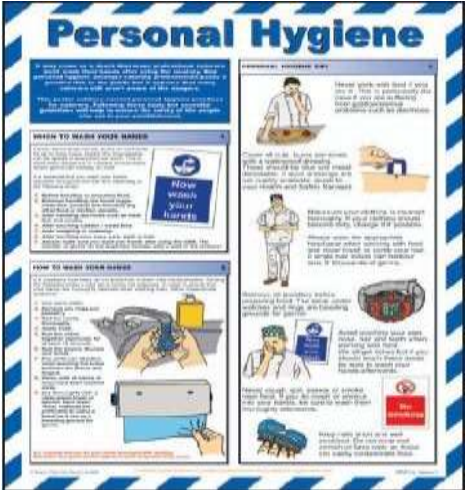


Pesticides should not be used in food areas.



# Prevention of Contamination

# Personal Hygiene



# Medical Screening

There should be:

- ✓ Illness notification procedures for employees
- ✓ Illness notification procedures for visitors to the site
- ✓ Documented infectious disease procedure

**AFC** Visitor Questionnaire

To be completed by all visitors/contractors intending to enter production areas of the factory.

NAME: \_\_\_\_\_ COMPANY: \_\_\_\_\_

**IN THE LAST 6 MONTHS HAVE YOU SUFFERED FROM ANY OF THE FOLLOWING CONDITIONS?**

1. Diarrhea or vomiting	YES / NO
2. Salmonella, Campylobacter, <i>Shigella</i> or E.Coli food poisoning	YES / NO
3. Any Parasitic Infection	YES / NO
4. Ear, nose or throat infections	YES / NO
5. Skin rashes	YES / NO
6. Recurring boils	YES / NO

**HAVE YOU EVER SUFFERED FROM?**

1. Typhoid or paratyphoid	YES / NO
2. Dysentery	YES / NO

IF VISITOR/CONTRACTOR ANSWERS YES TO ANY OF THE QUESTIONS ABOVE  
ENTRY TO PRODUCTION MAY NOT BE PERMITTED - CONTACT TECHNICAL DEPARTMENT FOR GUIDANCE



ENTRY TO PRODUCTION AREAS IS SUBJECT TO THE VISITOR/CONTRACTOR COMPLYING WITH THE FOLLOWING  
HYGIENE RULES.

1. Wear Company issued overall and hair net.
2. Wear beard snood if you have a beard or moustache.
3. Use antibacterial hand cleanser and hand wash basin at appropriate points.
4. Remove all jewelry and watches except plain rings and sleeper earrings.
5. No smoking, drinking or eating (including chewing gum) except in designated areas.
6. No nail varnish or false nails.
7. All cuts to be covered with a suitable plaster.

The information I have given is correct and I have read and understand the above hygiene rules.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Document Reference: Visitor Questionnaire QM9 003  
Revision 1, 2<sup>nd</sup> August 2018  
Created by: Technical Manager  
Authorised By: General Manager



# Personal Hygiene

Conditions which should be reported to management so that any need for medical examination and/or possible exclusion from food handling can be considered, include:

- jaundice
- diarrhoea
- vomiting
- fever
- sore throat with fever
- visibly infected skin lesions (boils, cuts, etc.)
- discharges from the ear, eye or nose



# Typical Hygiene Policy



# Typical Hygiene Policy

Clean Headwear to enclose hair and ears must be worn.



# Typical Hygiene Policy

Visitors and outside personnel should have permission from Management to enter product areas.



# Typical Hygiene Policy

Cigarettes, tobacco, lighters etc including any loose items must not be carried in the pockets of clothing when in the product areas.



# Typical Hygiene Policy

Nail varnish, false nails, eyelashes and hairgrips are not permitted.

Fingernails should be kept short and clean.

The use of cosmetics such as perfume, lipstick and aftershave is also not allowed.



# Typical Hygiene Policy

Jewelry can:  
Fall into the food  
Get caught in machinery  
Harbor bacteria



# Typical Hygiene Policy



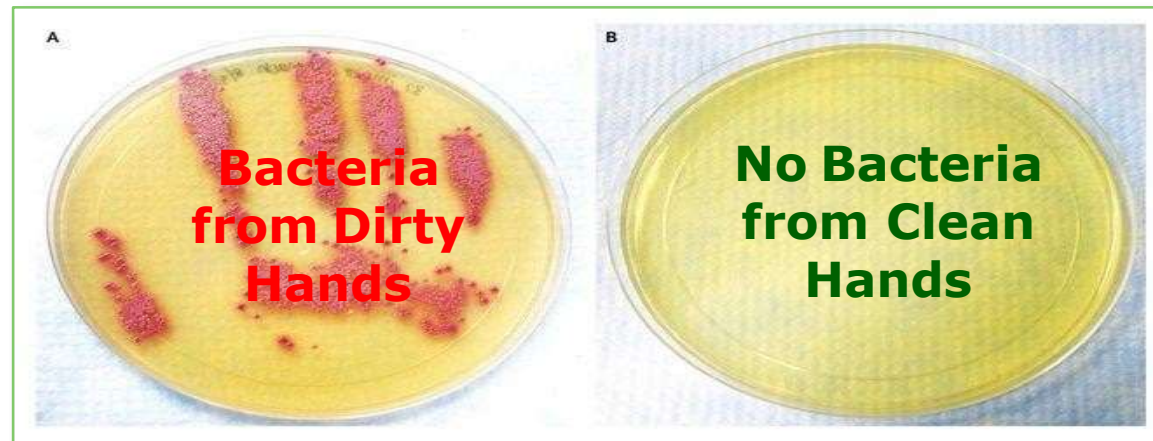
# Typical Hygiene Policy

Eating and drinking should only be permitted in a designated area such as a canteen.



# Typical Hygiene Policy

Eating, smoking and drinking transfer bacteria from the mouth to hands which could then contaminate the food.



# Typical Hygiene Policy

Hand washing facilities should be provided at entrances to product areas.

Hands must be regularly and thoroughly washed.



# Typical Hygiene Policy



It is best practice to use an antibacterial soap for hand washing.

# Typical Hygiene Policy – For Indians especially



# Typical Hygiene Policy

## First Aid

Drugs and medicines are prohibited from all food handling/processing areas.



# Recall Procedures

Managers should ensure effective procedures are in place to deal with any food safety hazard and to enable the complete, rapid recall of any implicated lot of the finished food from the market.

Where a product has been withdrawn because of an immediate health hazard, other products which are produced under similar conditions, and which may present a similar hazard to public health, should be evaluated for safety and may need to be withdrawn.



# Warehousing

## Storage and Temperature Controls



# Temperature Controls

Cold Food should be refrigerated at 0 - 5 °C (32- 41 °F)

Frozen food should be stored below - 18 °C



# Storage Controls

Products, packaging and materials should never be stored directly on the floor.



# Transport

During the transport of food measures should be taken where necessary to protect food from potential sources of contamination, damage likely to render the food unsuitable for consumption and provide an environment which effectively controls the growth of pathogenic or spoilage micro-organisms and the production of toxins in food.

Conveyances and bulk containers should be fit for purpose and adequately designed and constructed



# Transport

Conveyances and containers for transporting food should be kept in an appropriate state of cleanliness, repair and condition. Where the same conveyance or container is used for transporting different foods, or non-foods, effective cleaning and, if necessary, disinfection should take place between loads.

Where appropriate, particularly in bulk transport, containers and conveyances should be designated and marked for food use only and be used only for that purpose.



# Product Information

Products should bear appropriate information to ensure that adequate information is available to the next person in the food chain to enable them to handle the product safely.

The lot or batch should be easily identified and so it can be effectively recalled if necessary.

Consumers should have enough knowledge of food hygiene to enable them to understand the importance of product information, make informed choices appropriate to the individual and prevent contamination and growth or survival of food borne pathogens by storing, preparing and using it correctly.

Information for industry or trade users should be clearly distinguishable from consumer information, particularly on food labels.



## Beef Bottom Round Roast Cooking Instructions (Suggested Roasting Method For Medium/Medium Rare Beef)

1. If this product is frozen, make sure it is completely thawed in the refrigerator before cooking.
2. Preheat the oven to 450°F.
3. Remove the meat from the refrigerator and season it as desired.
4. Place the beef on a rack in a shallow roasting pan, fat side up. Do not cover the meat.
5. Cook the beef 15 to 30 minutes per pound. Check the internal temperature of the roast with a meat thermometer. When the internal temperature reaches 140°F, remove the roast from the oven.
6. Remove the roast from the pan and place it on a cutting board. Cover the roast loosely with aluminum foil and let it rest for 15 minutes. The internal temperature will continue to rise during the resting period and should reach 150°F, which indicates medium/medium rare doneness. *Note: It is recommended that beef reach an internal temperature of at least 145°F for safe consumption. For medium well or well done, a longer roasting time is required.*
7. After the appropriate resting period, the roast is ready for carving.

# Product Information & Consumer Awareness and Education

Insufficient product information and/or inadequate knowledge of general food hygiene, can lead to products being mishandled at later stages in the food chain.

Pre-packaged foods should be labelled with clear instructions to enable the next person in the food chain to handle, display, store and use the product safely.

Health education programmes should cover general food hygiene and enable consumers to understand the importance of any product information and to follow any instructions accompanying products.

**SPAR SMART CHEF**  
**SHRIMP RISsoles: 9 KG**  
200 units (Packed 5 x 40 units)

**COOKING INSTRUCTIONS:**  
Cook from frozen.

DEEP FRYING INSTRUCTIONS	COMBI STEAMER INSTRUCTIONS
Fry at 160°C for 7 minutes, until golden brown.	Do not bake.

Due to varying conditions, cooking times may differ.

**MERCHANDISING INSTRUCTIONS:**  
Immediately place on required platter and/or merchandise immediately in a heated unit.  
Once cooked, this product should be held at a minimum of 65°C for no longer than 2 hours.

**Ingredients:**  
Shrimp Paste (23%) (Shrimp (Shellfish), Water, Salt, Preservatives (Sodium Metabiphosphate, Sodium Citrate), Colourant), Water, Eggs, Fortified Wheat Flour (Wheat Gluten) (Fortification Premix (Vitamins (Vitamin A, Thiamine, Riboflavin, Niacin, Pyridoxine, Folic Acid), Minerals (Electrolyte, Iron, Zinc Oxide))), Onions, Cornstarch (Corn, Sugar, Malt Extract (Barley, Wheat Gluten)), Salt, Vitamin A, Ascorbic Acid, Vitamin B1, Vitamin B2, Nicotin, Vitamin B6, Folic Acid, Vitamin B12, Peracetic Acid-form, Seasoning (Herbs and Spices (Inactivated)), Salt, Malt Flour, Dehydrated Onion (Inactivated)), Unmodified Starch, Margarine (Vegetable Fats and Oils (Palm Fruit, Palm Seed)), Salt, Emulsifiers, Soya Lecithin (Soya), Preservatives (Sodium Benzoate, Citric Acid), Flavouring, Colourant), Tomato Puree (Tomato, Salt, Pepper, Preservative (Sodium Benzoate)), Spring Onions, Creamer (Glucose Syrup Solids, Vegetable Fat (Palm Kernel Oil, Palmolein)), Stabilisers, Sodium Caseinate (Cow's Milk), Emulsifier, Free Flow Agent, Colourant), Cheese (Milk (Cow's Milk), Salt, Colourant, Calcium Chloride, Potassium/Sodium Nitrate, Mono-animal Rennin, Lactic Cultures), Flavourings, Lemon Juice (Water, Lemon Concentrate, Preservative (Sodium Benzoate)), Parsley, Seasoning (Salt, Spices (Inactivated)), Soya Protein (Soya), Flavourings, Anti-Caking Agents), Spices (Inactivated), Crushed Garlic (Dried Garlic, Baked, Water, Vinegar, Salt), Pepper Sauce (Vinegar, Red Pepper, Salt), Preservative (Sorbic Acid).

Contains Allergens: Shellfish, Wheat Gluten, Cow's Milk, Eggs, Soya.

**Storage Instructions:**  
**KEEP FROZEN BELOW -18°C. DO NOT THAW AND REFREEZE.**

SPAR Consumer Help Line: 0860 313141  
Specially packed and quality guaranteed for SPAR South Africa (Pty) Ltd.  
22 Chancery Lane  
P.O. Box 1589 Pinetown 3600.  
www.spar.co.za  
PRODUCED IN SOUTH AFRICA

↑↑

16001008750349



# Product Labelling

This is a 100% pure form of virgin coconut oil. It can be used in cooking, baking, frying and added raw to recipes and meals. Coconut oil has long been recognised as a healthy nutrition option and is equally kind to the outside of your body as a skin or hair conditioner.

Coconut oil is known as an 'energy fat', embraced by dieters, athletes, and body builders. Rich in Lauric acid (about 50%), coconut oil is processed in the liver where it is converted directly into energy. Coconut oil is anti-viral, antibacterial, and anti-fungal. Coconut oil can provide a quick boost in energy and the valuable medium chain triglycerides will help reduce inflammation and strengthen immunity.

For tips and recipes about using our raw coconut oil visit our website [www.rawfoods.co.uk](http://www.rawfoods.co.uk)

**100% Organic\***  
**100% Raw\***  
**No Cholesterol**  
**Gluten Free**  
**Lactose Free**  
**Cold Pressed**  
**No Additives**



Non-EU Agriculture



322143444

500ml e



**raw** Organic  
Extra  
Virgin  
Pure Coconut Oil

**Ingredients:** 100% Organic Raw Coconut Oil

**Nutrition Facts**

Energy - kJ	3700 kcal 900
Fat	100g
Carbohydrate	0g
Lauric Acid	50 - 54%
Peroxide Value	<0.23meq/kg
Free Fatty Acid	0.05%
Moisture Content	0.10%

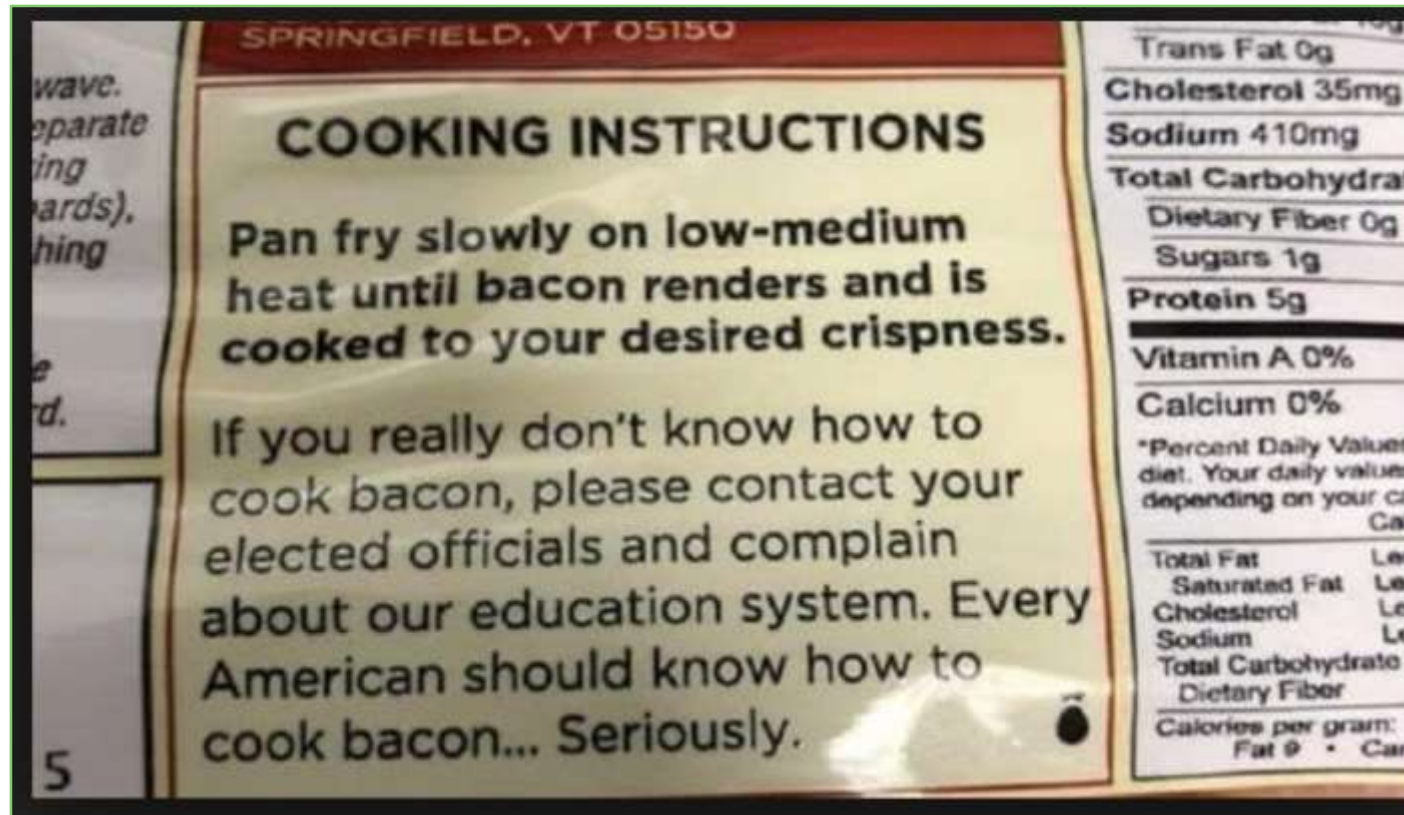
Store at room temperature in a cool, dry place.  
Coconut Oil is solid below 25°C. At temperatures above  
the coconut oil will melt, this is a natural occurrence.

**Raw Foods Ltd,**  
5 Knowle Business Units,  
Exeter, Devon, EX2 8HJ  
[www.rawfoods.co.uk](http://www.rawfoods.co.uk)

Best before date see bottom of jar

# Product Labelling

*Where cooking instructions are provided to ensure product safety, they should be fully validated .....*



# Labelling and Pack Control

The management controls of product labelling activities need to ensure that products will be correctly labelled and coded.

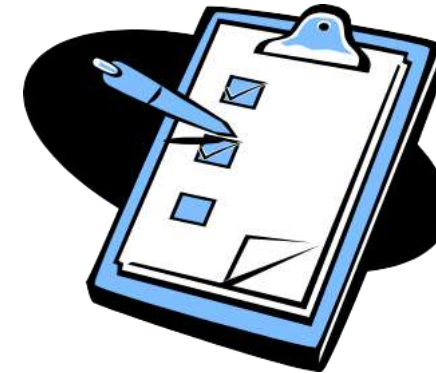


# Labelling and Pack Control

**AFC**

### Label Retention and Check

<b>Date:</b>	17/10/18	<b>Time:</b>	06:00 Hrs	<b>Line Number:</b>	1	<b>Sample:</b>	Start Up
						<b>Check and Sign</b>	
						<b>Operator 1</b>	Anne Operator
						<b>Operator 2</b>	Arno Operator
						<b>Supervisor</b>	Sue Pervisor
<b>Date:</b>	17/10/18	<b>Time:</b>	08:00 Hrs	<b>Line Number:</b>	1	<b>Sample:</b>	Reel Change
						<b>Check and Sign</b>	
						<b>Operator 1</b>	Anne Operator
						<b>Operator 2</b>	Arno Operator
						<b>Supervisor</b>	Sue Pervisor



<b>Production Manager Check</b>	<b>Date:</b>	17/10/18	<b>Time:</b>	17:00 Hrs	<b>Sign:</b>	Paul Manager
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Document Reference Label Retention and Check QMR 002  
 Revision 1 1<sup>st</sup> August 2018  
 Owned by: Technical Manager  
 Authorised By: General Manager



# Product Label and Labelling Control

- Changes to raw materials (including labels) are communicated to goods receiving personnel
- A procedure to manage obsolete packaging (including labels)
- Control of offline coding and printing of packaging materials
- Relevant personnel receive training on the labelling and
- packing processes



# Food Defence

**AFC** Site Security and Food Defence

The assessment examines supporting information to evaluate the potential risks to products from any deliberate attempt to inflict contamination or damage. The attractiveness of the facility as a target is considered as well as vulnerability of IT systems and data protection.

For each of the threats identified, an assessment of vulnerability to the threat is performed. The vulnerability assessment considers the potential impact of loss from a successful attack as well as the vulnerability of the facility/location to an attack. Impact of loss is the degree to which the company is affected by a successful attack.

Vulnerability is defined to be a combination of the attractiveness of a facility as a target and the level of deterrence and/or defence provided by the existing measures. Target attractiveness is a measure of the asset or facility in the eyes of an aggressor.

Risk Analysis

A combination of the impact of loss rating and the vulnerability to threat rating can be used to evaluate the potential risk to the facility from a given threat. A risk matrix is used to conduct the risk analysis by combining the vulnerability with the impact of loss for the facility.

Assessment	Vulnerability to Threat		
	High	Medium	Low
Severe	High Risk	Medium Risk	Low Risk
Noticeable	High Risk	Medium Risk	Low Risk
Minor	High Risk	Medium Risk	Low Risk

High risk - actions are implemented immediately.

Medium risk - actions should be planned in the near future.

Low risk - actions will enhance security but are lower priority.

Based on the findings from the risk analysis, the Crisis Management Team identify and implement actions in a documented threat assessment plan that will lower the various levels of risk.

Document Reference: Site Security and Food Defence QM 4.2  
Revision 2 - 1<sup>st</sup> August 2018  
Owned by: Technical Manager  
Authorized By: General Manager

# Training n I add up Retraining

Training and Supervision are important elements in maintaining food safety. Employees need to understand their responsibilities and should be adequately supervised.





# Management and Super.....vision

The type of control and supervision needed will depend on the size of the business, the nature of its activities and the types of food involved.

Managers and supervisors should have enough knowledge of food hygiene principles and practices to be able to judge potential risks, take appropriate preventive and corrective action, and ensure that effective monitoring and supervision takes place.





# WHAT TO FOCUS ON.....

- **QUALITY OF MILCH ANIMALS**
- **SERVICES TO MILCH ANIMALS**
- **TREAT THEM AS HUMANS , THEY ARE NEXT TO OUR POPULATION MAMMALS AND GOVERNMENT SHOULD MAKE PROVISIONS OF WATER , FEED ETC. , IN FUTURE**
- **UPGRADE MILK PROCUREMENT SYSTEMS ACROSS NATION**
- **ENCOURAGE QUALITY OF RAW MILK**
- **RESIDUE MONITORING PROGRAMS**
- **ENCOURAGE EVP, HOMEPOATHY TO REDUCE ANTIBIOTICS**
- **FOCUS ON EXPORTS QUALITY**

# QUESTION HOURS.....

***Gokulakrishnan S S***

•  
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M Sc (Dairy technology)  
NET ( Dairy Technology)*

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