



## American Cheese Society Body of Knowledge

### Domain 1: Health, regulations, food safety

#### 1. Health

##### A. Health benefits

- Milk
- Cheese
- Cultured dairy products
- Nutrition
  - Fat content
  - Calories
  - Nutrients
    - Calcium, protein/amino Acids

##### B. Health concerns

- Lactose intolerance
- Gluten intolerance
- Protein intolerance
- Allergens
- Dietary restrictions
  - Vegetarian
  - Kosher
  - Halal
- Foodborne illness
  - Susceptible populations
  - *Listeria monocytogenes*
  - *Toxigenic E. coli*
  - *Salmonella enterica*
  - *Staphylococcus aureus*

#### 2. Regulations governing cheese industry procedures

##### A. Regulatory bodies

- In the US
  - Federal: FDA, USDA, Customs and Border Patrol (CBP), Environmental Protection Agency (EPA)
  - State: Department of Agriculture, Agriculture & Markets, Agriculture & Land Stewardship
  - County
  - City
- In other countries: Central and South America, Europe, Canada, Australia, New Zealand, China

##### B. Registration and licensing

- FDA facility registration
- State facility registration
- Warehousing and cold storage
- Facility licensing
  - CTPAT
  - CES
  - CFS
  - Bonded
- Pasteurizer

- State licensing
- Wisconsin state licensing
  - Cheesemakers
  - Butter makers
  - Cheese grader

#### C. Milk

- Pasteurized Milk Ordinance
  - Milk handling
  - Antibiotic testing requirements
  - Quality testing requirements
- Use of raw milk in cheesemaking
- Milk grades
- Physical treatments of milk
  - Microfiltration etc.
- Heat treatments
  - Definitions
  - Pasteurization
  - Requirements
  - Thermization

#### D. Import/export

- How to export your cheese
  - Logistics
  - Duties
  - Customs paperwork
- How to import cheese and cheesemaking supplies
  - Freight forwarder
  - Customs broker
  - Consolidator
  - Invoice compliance
  - FDA registration of imported products
  - Canadian Quota System
- Tariff system
  - “Over the top”
  - Duty based on milk type
- License fees
- USDA holds
  - Pest, infestations
- FDA holds
  - Detention without examination
  - Blacklist
- FSMA: FSVP

#### E. Product labeling and dating

- Weights and measures
- Definitions: Best by, sell by, use by
- Regulatory approvals
  - FDA approved labelling for imports
    - Outer and inner carton label compliance
- Requirements for different sales channels
  - Producer, wholesale, retail
- Exemptions
- Ingredients

- Nutrition panel requirements
  - Standards of Identity/ trademarks
    - CFR/ PDO
  - GTIN/GS1
  - Traceability
  - Lot codes
- F. Good Manufacturing Practices (GMPs)
- 21 C.F.R. 110, 117
- G. Inspections, investigations, and targeted sampling
- Environmental testing (by regulators)
  - Product testing by regulators
  - Water quality
  - Food contact surfaces

### 3. Food safety

- A. Food Safety Modernization Act
- Foreign Supplier Verification Program Rule
  - Sanitary Transport Rule
  - Hazard Analysis Risk -Based Preventive Controls Rule
  - Preventive Control Qualified Individual
  - Exemptions
- B. Food safety plan
- Hazard analysis
  - Preventive controls
  - Process controls
  - Allergen controls
  - Sanitation controls
  - Supply chain
  - Temperature controls
  - Verification
  - Environmental monitoring
  - Product testing by producer
  - Corrective actions
  - Recall plan
  - Validation
  - Reanalysis
  - Supplier verification
  - Recordkeeping
  - Audits
    - Types: 1st- 3rd party audits
    - Frequency: Annual
- C. Food defense plan
- D. Recordkeeping
- Make process
  - Lot coding
  - Cold chain
- E. Third party audits
- Retailers Consortium
- F. Training programs
- FSPCA

# Domain 2: Operations

## 1. Facilities

### A. Sanitary design

- Foot traffic sanitary and unsanitary environments are separate
- Limiting cross contamination possibilities
- Vehicle access
- Location and orientation
- Building materials and insulation: Interior and exterior
- Water supply
- Sewer and septic needs
- Environmental concerns: Water, air, pest control

### B. Zones

- Food handling/ preparation areas
  - Food contact surfaces
  - Cheese ripening/aging areas
- Non- food handling areas
  - Storage areas
  - Refrigerated storage
  - Frozen storage
  - Dry storage for ingredients/ packaging
  - Restrooms
  - Loading docks
  - Floors
  - Walls
  - Drains
  - Break rooms, lockers
  - Dumpster, trash area

### C. Climate controlled environments

- Climate control concepts
  - Temperature
  - Dew point
  - Relative humidity
  - Air speed
- Air exchange
  - Oxygen level, Ammonia evacuation, CO2, air filters

### D. Milk processing and storage facilities

### E. Cheesemaking facilities

- Make room, draining room, drying room, brine room, ripening room cutting and packaging, cold store room, receiving room,

### F. Cheese ripening environments and aging facilities

- Ripening racking/method of storage/Shelving options, application, design and materials
  - Plastic or wooden crates, wooden shelving/ plastic metal wire racking/ run from ropes, anaerobic under vacuum seal

### G. Packing rooms

- Packing stations
- Loading dock
- Food safety considerations
- Temperature and humidity for packing to prevent condensation inside wrapping material

### H. Finished product storage, preparation, and sale

## 2. Equipment and utensils

- A. Technology
  - Robots, computers and computer systems, cameras
- B. Climate control tools
  - Air room exchanges/ [positive air pressure/ exchange rate (hourly/ daily)
    - Air handlers and sock systems
  - Static, radiant, or ventilated cooling
  - Humidifiers/dehumidifiers
  - Sensors
- C. Milk processing and storage
  - Bulk tanks, pasteurizers, bactofuges, separators, clarifiers, churns, vats
  - Thermometers, temp logs, defrost cycles
- D. Cheesemaking and aging
  - Tools to analyze composition
    - Titratable Acidity
    - pH meters
    - Salt analyzers
    - Moisture analyzers
    - Fat content analyzers
  - Molds/forms/hoops
    - Styles: Block, microperforated, perforated individual with bottom and without bottoms, basket, non-perforated
    - Material: Plastic, stainless steel, wood
  - Presses
    - Horizontal, vertical prepress tables
  - Tables
    - Prepress tables, draining tables, curd maturation tables, rotating drum drainer, draining belts, finishing tables
  - Vats
    - Square body traveling agitator, double O enclosed, circular open top, enclosed cradle, open top semi spherical, continuous coagulator, tipping vats, deep copper conical
  - Curd Mill
    - Peg, rotary, chip, plunger/drawer style
  - Pasta Filata Systems
    - Cooker (waterless/steam/ hot water)
    - Stretcher (continuous, batch)
    - Molder
  - Curd cutting tools
    - Harp, lira, spino, spanarola, plates, knives
  - Salting and brining tools
- E. Finished product storage, preparation, and sale
  - Forklifts
  - Utensils: cutters, scales, slicers

## 3. Standard Operating Procedures

- A. Development and maintenance of SOPs
  - Create written protocols
  - How to keep/store them
  - Training and documentation of training
- B. Best practices
  - ACS Best Practices Guide for Cheesemakers
  - Safe Cheesemaking Hub

- Environmental testing and monitoring for pathogens
  - In process testing for *Staph aureus*
  - ATPase test for sanitation
  - Finished or end- product testing
  - Program for holding product undergoing testing and positive release once results are in
- Safe Cheese Service
  - Workstation design
  - Mise en place
  - Clean as you go
  - Time/Temp at Ambient temperature- AW/pH thresholds for display
  - Cross Contact
  - One cheese, one board, one knife/wire
  - Slicers, sign holders, and other tools
  - Site testing surfaces

#### 4. Cleaning & sanitation protocols

##### A. Standards of hygiene

- Why we clean, frequency of cleaning, and documentation of cleaning
  - Definition: Cross contact
  - Deep cleaning schedules
  - Cleaning and maintenance schedules
- Color coding systems
- Chemicals, chemical use procedures, and cleaning agents
  - Types: Caustics, acids, sanitizer
  - Storage: Labeling in secondary container
- Applications: COP/ CIP, foaming, manual clean, fogging
- How to deal with spills and clean up
- Wooden board usage and sanitation, cleaning, drying
- Cleaning equipment and supplies
  - Mops, buckets, scrubbers, foaming systems

#### 5. Personnel

##### A. Policies

- Personal hygiene policies and practices (Included in GMPs)
- Fitness for work
- Protective clothing and Personal Protective Equipment (PPE)
- OSHA regulations
- Fair labor practices in U.S. and abroad
- Ergonomics

##### B. Visitors

- Visitor policies, sign in-log
- Contractor policies, sign in log

#### 6. Crisis Management/ disaster planning

##### A. Recalls and withdrawals

- Traceability: one step forward, one step backward
- Procedures for isolation of affected product
- Documentation
- Wording of recall notice to be posted
- Product disposition
- Sanitation procedures
- Financial credit
- Responding to consumer questions
- Handling of media
- Internal/ External Communications
  - PR/ Communication planning

- Contact lists
- B. Legal counsel
- C. First aid
- D. Natural disasters
  - Flood
  - Fire
  - Power/ server outages
  - Other natural disaster

## Domain 3: Cheese History, Definitions, and Categorization

### 1. History of cheese

- A. Milk preservation
- B. Economic history of cheese
- C. Anthropology/ Social history of cheese
- D. Geography

### 2. Definitions

- A. Codex Alimentarius
  - General Standard for Cheese
- B. Code of Federal Regulations
  - Standards of Identity
- C. Designations and name control
  - European Union
    - Protected Designation of Origin (PDO)/ Designation of Origin (DO)
    - Protected Geographic Indication (PGI)
    - Traditional Specialty Guaranteed (TSG)
  - Regional terms
    - Appellation d'Origine Contrôlée (AOC)/ Appellation d'Origine Protegee (AOP)
    - Denominazione di origine controllata (Italy)
    - Denominacion de d'Origen(Spain)
    - Geschützte Ursprungsbesceichung (Germany/Austria)
- D. Other designations
  - Certifications
    - Organic
    - Biodynamic
    - Humane Certified (i.e. Animal welfare Approved)
    - B-Corp
    - Validus
    - Non-GMO Verification
  - Production methods
    - Farmstead
    - Industrial
    - Coop
    - Fermier
  - Trademarks

- Mission/practice based labels

### 3. Categorization

#### A. Attributes that affect how a cheese may be categorized

- Place of origin
- Milk type
  - Species
  - Breed
- Make process
- Milk treatment
- Ripening method/ affinage/ rind type
- Shape/size
- Sensory attributes
  - Texture
  - Flavor profile
- Age
- Seasonality
  - Micro ecology/Terroir
  - Feed type
  - Transhumance/Alpage
- Cultures
- Composition
  - Most commonly used: % Moisture, % FDM (fat in dry matter), % MNFS (Moisture non-fat substance/solids), %SM (salt in the moisture phase), pH
  - Uncommon- % Residual sugars/ % Ca/SNF (calcium/solids non-fat)

## Domain 4: Milk

### 1. Science of milk

#### A. Microbiology

- Non-starter Bacteria
- Lactic acid bacteria (LABs)
  - Adjunct or adventitious LABs
- Spoilage: micrococci, yeast, mold
- Phage/bacteriophage
- Pathogens, index, and indicator organisms

#### B. Milk quality tests

- Coliform (VRB)
- Yeast and Mold
- Spores
- Standard plate count
- Somatic cell count
- Preliminary Incubation Count (PI Count)
  - Psychrotrophs
- Pathogen Analysis

### 2. Milk composition and yields

#### A. Milk components

- Casein, calcium, lactose, fat

#### B. Intrinsic properties that affect composition and yield

- Species
- Breed
- Age



- Animal health
- Individual animal within herd
- C. Extrinsic properties that affect composition and yield
  - Lactation
    - Morning milk versus evening milk
    - Stage of lactation
  - Nutrition
  - Feed source
    - Conventional total mixed ration (TMR), Grass-fed, pasture or organic
  - Season
  - Environment

### 3. Milk Source

- A. On farm production
- B. Purchased
- C. Milk pricing
  - Feed efficiency (Milk to feed ratio)
  - Class I-IV

## Domain 5: Cheesemaking

### 1. Science of cheesemaking

- A. Microbiology
- B. Chemistry
  - Cheese composition
    - Moisture, fat, non-fat solids
  - Water activity and pH

### 2. Ingredients

- A. Milk treatment
  - Heat treatment
  - Cream addition
  - Milk standardization (protein, casein, lactose- accomplished with membranes, powders, or other dairy ingredients)
  - Fat/cream separation
- B. Primary ingredients
  - Acidulants
    - Starter cultures
    - Citric acid, acetic acid (vinegar), purified lactic acid, glucono delta lactone, tartaric acid
  - Cultures
    - Starter (primary) cultures
      - Mesophilic, thermophilic,
      - Form: bulk, frozen, freeze dried
    - Ripening cultures (secondary/ adjunct)
      - NSLAB, yeasts, molds, micrococci, brevibacterium
    - Protective cultures
      - Added with intent of preventing contamination of unwanted microbiological activity outside the desired process
  - Coagulants
    - Types: Microbial, vegetal, animal, fermentation produced chymosin
    - Forms: Liquid, powder, paste
    - Effects of coagulant type and usage (on cheese making and aging)
  - Salt
    - Types of salt

### C. Optional ingredients

- Colorants
- Milk whiteners
  - Titanium dioxide
  - Hydrogen peroxide
- Calcium chloride
- Lipase
  - Kid, calf, lamb
- Flavorings
  - Herbs and spices
  - Fruits and vegetables
  - Nuts, meat seafood
  - Smoke
  - Blended cheeses
  - Sweets, coffee, and tea
  - Alcohol
  - Rubs and washes
  - Ash
  - Leaves
- Manufacturing concerns when adding flavorings
- Safety concerns
- Protectants and preservatives
  - Protective cultures
  - Fermentates
  - Anti-caking agents

### 3. Cheesemaking process

#### A. Pre-ripening

#### B. Milk ripening

- Time, temp, pH, titratable acidity
- Fermentation
  - Lactic
  - Enzymatic

#### C. Coagulation

#### D. Cutting or breaking curd

- Curd cut sizes and gel firmness and their effect on finished cheese
- Determining flocculation and gelation

#### E. Intermediate steps

- Rest/fore work
- Milk and whey dilution
- Curd washing
- Settling- curd matured under whey as for pasta filata
- Pre-draining/ separation of whey
  - Mechanical or manual pressing
  - Natural draining
  - Mechanical draining (belts/ rotating perforated tubes)

#### F. Salting

- Pre-salting, direct salting, dry salting
- Grain size
  - Brining
  - Static, or mechanically managed
    - Chilled, filtered, pH regulated
- Flipping
- Factors that influence salt uptake

- G. Concentrating curd solids
  - Achieving the target moisture level in cheese body
    - Agitation
    - Stirring
    - Cooking
    - Pressing
    - Curd maturing
    - Under whey
    - Whey dilution
    - Washing
    - Cooking/ stretching
- H. Acidification
  - Impact on mineralization and texture
- I. Forming a curd mass
  - Molding
  - Milling

## Domain 6: Ripening

### 1. Science of cheese ripening

- A. Microbiology
  - Rind
  - Paste
- B. Chemistry
  - Predictors and chemistry behind texture and flavor development
  - Moisture in Non-Fat Solids (MNFS)
    - Proteolysis
    - Lipolysis
    - Glycolysis

### 2. Ripening parameters

- A. Climatic requirements
  - Bloomy
  - Washed
  - Blue
    - Mold ripened
    - Foil-wrapped
  - Bandaged
  - Natural rind
  - Plastic or poly coated
  - Vacuum sealed/cryovac/ permeable plastic
  - Waxed
- B. Adjusting care based on unique batch parameters
  - Data/ communication from cheesemakers (in house or outsourced)
  - Reaching targets
  - Information about milk composition and heat treatment
  - Moisture, pH, salt, inherent microflora, Aw

### 3. Ripening process

- A. Rind development
  - Rind treatment
    - Brining and salting

- Brine tanks and systems
      - Hand salting methods
  - Washing
    - Tools and methods for washing
    - Wash solutions
    - Use of cultures in the brine to create a desired outcome for smear-ripened cheeses
  - Rind protection material
    - plastic coating
    - wax
    - cloth
    - Specialty cheese papers
    - bags
    - ash
    - oil
    - lard
- B. Managing rind flora
- Mitigation of desirable and undesirable mold/ yeast/ bacteria development
    - Mucor
    - Cheese mites
    - Rind rot
    - Slipskin (Peau de Grenouille)

## Domain 7: Assessment and Evaluation

### 1. Sensory Evaluation

- A. Grading systems/ schedules
  - Determine categories to measure
  - Determine measurement system
  - Build a grading database
  - Spider graphs
- B. Preparation
  - Familiarizing oneself with cheese varieties and judging standards prior to tasting
  - Avoid strong foods/odors before a grading session
- C. Evaluation environment
  - Effect of temperature, cleanliness, lighting, other aromas, potential distractions on cheese assessment
  - Tools- knives, triers
  - Calibrating palates and developing a common lexicon
  - Taste progression
  - Avoiding fatigue

### 2. Points of Evaluation

- A. Quality assurance and analysis
- B. Defining cheese profiles
  - Determining acceptable and unacceptable flavor and body characteristics
  - Determine intensity of acceptable and unacceptable flavor and body characteristics
- C. During ripening
  - Sensory and technical assessments/ evaluations
  - Determining ripening trajectory for proper timing of release
  - Determining shelf life or best by dates for products

- Sensory analysis informed by cheese chemistry
  - (pH, moisture, fat, salt)
- D. Upon receipt
  - Affinage facility
  - Distribution
  - Retail
- E. Before selling or serving
  - Determine ripeness
  - Shelf life
- F. Competitions and judging
  - Types of competitions
    - Blind to producer vs. producer known
    - Number of entries
    - History
  - American Competitions
    - American Cheese Society Judging & Competition
    - US Championship Cheese Contest
    - Good Food Awards
    - Regional Agricultural Fairs
  - International Competitions
    - World Cheese Awards
    - World Championship Cheese Contest
    - International Cheese Awards

### 3. Communicating assessments

- A. Documenting cheese assessments and evaluations
  - Scorecards
  - Templates
  - Tasting history
- B. Sharing assessments and evaluations
  - Consider audience
  - Providing positive feedback and comments
  - Language/tone
  - Vocabulary
- C. Feedback loop
  - Communicating problems across the supply chain
  - Collecting info/documentation for communication
  - Samples and photos
  - Develop a system that helps communicate issues back to producer, distributors/ cheesemaker/ milk source
  - Vat id, make date

## Domain 8: Selling and Transporting

### 1. Selecting sales outlets

- A. Choosing sales routes
  - Wholesale – direct, distributor
  - Retail – online, on farm, producer store
- B. Selecting distributors/retailers
  - Shop/Distributor Mission
  - Geographic location/scope/overlap

- Range of cheeses
- Selling approach (cut from wheel, cheese specialists)
- Receptiveness to seasonality
- Quantity requirements/expectations
- Seller integrity
- Competitive landscape

#### C. Working with distributors/retailers

- What to require
  - 3<sup>rd</sup> party audits, certifications, licenses, food safety plan or HACCP, FSVP, GFSI- SQF, BRC, End- product testing, COA analysis from a lab, environmental testing plan, FSMA vs. NON FSMA Audits
- Setting policies re: payment terms, sampling allowance, demoing, what constitutes a valid return
- Distributor reports (where cheese is sold)
- Communicating with retailers, distributors and sales teams
- Essential materials (POS, Handling instructions, producer info)

## 2. Selling Cheese

### A. Chain of Custody

- Terminology
  - Ex-works
  - FOB
  - CIF
  - Delivered
- Insurance
- Documentation
  - Bill of Lading

### B. Recordkeeping

- Traceability
- Invoicing
- Cold chain

### C. Format

- Wheels
- Blocks
- Cubes, slices
- Cut formats
- Shred
- Lidded containers

## 3. Procuring

### A. Supply chain and sales channels

- Producer
- Importer
- Distributor, broker, sub distributor (jobber),
- Affineurs
- Retailers
- Restaurants
- Direct to consumer
- Farmers markets and farm stores
- Online sales
- Institutional (schools, military, hospitals, nursing homes)
- Cruise ships and airlines

## 4. Packing

- A. Cheese preparation
  - Holding zones
  - Flow chart of physical movement of product and employees
- B. Wrapping cheese
  - Wrapping appearance: employee training
  - Types of wrapping materials
    - Environmentally conscious options
    - Specialty cheese papers
    - Plastics
    - Protective shells/ boxes
- C. Documentation
  - Labels with nutritional information
  - Packing lists
  - Invoices
  - Bill of lading
  - Airway bill
  - Batch/ lot code
  - Date packed
  - Weight
  - Regulatory requirements
  - Retail labels
  - Bar code
- D. Packaging materials
  - Environmentally conscious options
  - Type of cheese(s) being transported
  - Individual cheese box
  - Cases of boxes
  - Insulated boxes
  - Ice packs
    - Size and cheese: ice ratio
  - Special labeling
    - Case labeling: cheese, batch date, barcode
  - Pallet size requirements
  - Protectants and cushioning
  - Vacuum packing for transport
    - Gas flush
  - Disposal of packing materials

## 5. Logistics and transportation

- A. Modes of transportation
  - Refrigerated transport
  - Palletized shipments
  - Cheesemaker transport
  - Air freight
  - Ocean freight
  - Non-refrigerated shipping services
- B. Maintenance and documentation of the cold chain
  - Recording temperatures during transport
  - Temperature reading/ recording methods and devices

# Domain 9: Inventory Management

## 1. Sourcing (inventory selection)

### A. Considerations

- Knowledge of customer base
- Knowledge of product
- Mission statement (declared or implied)
- Subjective tastes of buyer
- Geographical constraints of location
- Type of cheese program
- Style of shop/restaurant/company etc.
- Producer integrity
- Seasonality
- Competitive landscape
- Product diversity
- Market trends
- Optimal retail price

### B. Supplier Programs

- Approved supplier programs (FSMA)
- What to require of producers/ distributors
- 3<sup>rd</sup> party audits, certifications, licenses, food safety plan or HACCP, FSVP, GFSI- SQF, BRC, End-product testing, COA analysis from a lab, environmental testing plan, FSMA vs. NON FSMA Audits
- Store policies re: ingredients, payment terms, sampling allowance, demoing, what constitutes a valid return

## 2. Receiving

### A. Receiving protocols

- Documentation
  - Purchase orders
  - Invoices
  - Packing slips
  - Bills of Lading
  - Product evaluation results (Ripe, ready to sell?)
  - Visual
  - Olfactory
  - Tasting
  - Batch no. logged
  - COA attached
  - Receiving logs
  - Photos
- Check against purchase order, check actual received cheese against invoice/packing slip
- Temp incoming product
  - How to temp- in cheese, in box, in truck
- Check product specs. and quality proper labeling
- Preparing for incoming cheese
  - Making space in refrigerated areas
  - Staff preparation
  - Work surfaces: clearing and cleaning

### C. Unloading cheese

- Receiving area/ dedicated tables
- Unpack cheese
  - Put directly out for sale, or storage
- Triage



- What to do if product arrives out of temp/ wet/ dry, etc.
- When to return/dispose/reach out for credit
- Documentation needed
  - Batch info, pictures
- Evidence of infestation
- Damaged or out of date product
  - Acceptable time lag from receipt to discovery (if defects are not visible)
  - Acceptable deviation from the norm
- Definitions: Best by, sell by, use by
- Discrepancy between purchase order and delivered product/ invoice- item name/ weight/ Qty, Weight discrepancies invoice to box to product- understanding the loss of weight from supplier to shop and how to handle this

### **3. Inventory management**

#### **A. Ordering**

- Pars
- Logs
- Tracking movement via sales/ shrink
- Ordering/ buying management
- Managing/evaluating promotions & sales goals
- Systems for controlling inventory
- Record keeping practices
- Determine monetary value of inventory or evaluate inventory to determine monetary value
- Internal reporting to gauge success
- Movement reports

#### **B. Rotation**

- First in, first out
- Date received
- Make date/batch number
- Product lifecycle
  - Knowing when to sell/push/ hold back based on assessment/ripeness/condition

#### **C. Controlling loss**

- Reducing and recording waste
- Shrink
- Expiration dates and product past prime
- What to do when cheese doesn't sell
- Regular inventory checks
- When to clean/ how to clean, when to throw away

### **4. Storage & Shelf Life Guidelines**

#### **A. Product lifecycle**

#### **B. Date marking and labeling**

#### **C. Requirements for cold storage**

- Organizational flow
- By category, region, producer,
- Requirements for different business types
  - Cheesemaker/ producer storage
  - Distributor storage/warehouse
  - Retail storage
  - Restaurant
  - Cart, back case
  - Consumer storage recommendations

# Domain 10: Point of Sale to Consumer/ Preparation for Sale/Service

## 1. Types of cheese service

### A. Distribution

### B. Retail / wholesale

- Take and fulfill orders
- Managing special orders
- Prioritization
- Cleaning between cheeses
- Tasting and sampling
  - Active
  - passive
- Cutting
  - Cut to order
  - Cut and wrap
- Wrapping
- Manage sell by dates/ cut dates
- Weighing for sale
- Wholesale programs
- Care of cheese on display

### C. Catering

- Cheese platters
- Off-site service
- Hot service: fondue, raclette

### D. Restaurant

- Portioning
- Determining scope of cheese program
- Suitability of program to goals of the restaurant
  - complimenting style of cuisine
  - local / national / international selection
- Cheese presentation
- Menu design
  - Cheese as starter course
  - Cheese as separate course in multi-course meal
  - Cheese as dessert
- Plating
  - Kitchen or front of house
  - Proper serving temperature
  - Proper tasting order
- Cheese cart
  - Appropriateness to style of restaurant
  - Table spacing
  - Ability of staff/designated fromager to make presentations
  - Ability to maintain during service
  - Working off vs. display only
- “Ownership” of cheese program
  - Kitchen vs front of house
  - fromager vs out-sourcing to local cheese shop

## 2. Customer service

### A. Role of cheese professional

- Consideration of what customer is looking for
- Pricing
- Educate and communicate about all aspects of cheese background
  - Rennet, mold, yeast types

- Cheese names
  - Ingredients and nutritional info
  - Variety and milk type, heat treatment
  - Provenance- producer/ affineur/Cooperatives/ fruitière/ certifications/ designations/ regionalities
  - Producer biographies
  - Serving sizes and portioning
  - Pairing ideas
  - Recipe suggestions
- B. Customer care
- Determine action
    - Apology
  - Discount
  - Refund
  - Documentation
    - Share with staff to educate

### 3. Tastings and pairings

- A. Composition
- Classics
  - Seasonal variation and availability
  - Tasting progression
  - Beverages
  - Food
    - Regional specialties
  - Accompaniments
    - Breads
    - Fruits and vegetables
    - Nuts
    - Meats
    - Condiments
    - Honey
    - Olives
- B. Cooking with cheese
- Classic dishes
    - Raclette
    - Fondue
    - Poutine
    - Aligot
    - Macaroni and cheese
    - Grilled cheese sandwich
    - Onion soup
    - Frittata
    - Welsh Rarebit
    - Tartiflette
    - Concoillotte
  - Cheese as an ingredient
    - Melting cheese vs. non-melting
- C. Cheese boards
- Choices
  - Condiments
  - Visual appeal

- Tools

## Domain 11: Business Principles and Practices

### 1. Research

#### A. Industry statistics

- Cheese sales and trends
  - Historic, present, predicted
- Survey
  - In house
  - Contracted

#### B. Market research

- Target market
- Demographics of the market
- Knowledge of competition
- Pricing thresholds
- Performance/market changes over time
  - Your products
  - Trends overall
  - New trends

### 2. Accounting and finance

#### A. Chart of Accounts

- Cost of goods sold vs. expenses
- Profit & Loss statements
- Cash flow

#### B. Costing strategy

- Definitions: Pricing, markup, margin
- Delivered pricing versus freight on board/ free on board
- Margin structure: distributor, wholesaler, retailer
- Freight costs
- Brokerage
- Marketing costs
  - Sampling allowances
- Identifying suggested retail price
- Cost analysis of all cheeses produced before determining your selling price
- Gross margin
  - Price architecture
  - Margin versus markup
  - Case procurement
  - Planograms

#### C. Reporting and profitability

- Regular financial health checks
  - Financial dashboard
- Taxes
- Overhead: Utilities, rent

### 3. Human resources

#### A. Insurance

- Types of coverage and levels of coverage
  - Product liability
  - Product spoilage
  - General liability

- Natural disaster/crisis coverage
  - Cyber-attacks and information breach coverage (credit cards)
  - Business property
  - Worker's comp
  - Health
- B. Wages and benefits
  - Hours
  - Federal overtime laws
  - Exempt v. non-exempt
- D. Management
  - Creating a company culture
- A. Hiring practices
  - Interviewing
  - Required documentation
  - Employee handbook/ new hire packet
- C. Employees
  - Workplace behavior
  - Educational opportunities
    - Field trips/ university training/ trade associations/ regional meetings/ ACS conference/ Cheesemonger competitions/ scholarships/independent cheese courses and tours
    - Resources: books, magazines, articles, podcasts, websites
    - Certification Exam
  - Employee development
    - Evaluations
    - Writeups, disciplinary documentation
    - Corrective action plans
    - Termination procedures
    - Unemployment financial responsibility and remediation
    - Non-compete clauses
- D. Training
  - Employee training
    - Onboarding
    - Mentorship/ coaching

#### **4. Marketing**

- A. Branding
- B. Strategic goals
- C. Sales
  - Sales employees
  - Brokers
  - Role of distributors
  - Goal setting
- D. Marketing
  - Advertising opportunities
  - Competitions
  - Social media
  - Print advertising
  - Website
  - Demonstrations
- E. Outreach and engagement
  - End user
  - Retail
  - Food service

- E. Cross platform strategies
  - Social media, partnerships, written communications (blog newsletter, etc.), website
  - Classes
  - Sampling: Tastings, dinners, in store demos

## **5. Merchandising**

- A. Packaging and paper goods
- B. Signage
  - Sales sheets
  - Price sheets
  - Shelf talkers
  - Cheese signs
  - Promotional materials
- C. Visual merchandising
  - Creating an effective and safe display
  - Light oxidation
- D. Merchandising hot zones
  - Countertops
  - Eye-level shelving
- E. Impulse shopping
  - Merchandising at cash wrap
  - Cross merchandising displays