CHAPTER 11
TRAINING

Chapter 11: Training

1. Introduction

Dairy processing is a specialised activity in the dairy industry and as such employees must be trained in the specific methods for handling the product. As mentioned previously, the need for training in hygiene measures is critical to ensure the correct behaviours in a dairy processing facility.

The law requires that the person in charge of a food handling facility ensures that anyone handling food is adequately trained.

R 962, 10

Education and training in a food processing facility requires an ongoing process involving all personnel from management down to the cleaning-up crew on the processing floor. The approach and content of training will differ depending on the skills and knowledge level required for the function to be performed.

Training begins when someone starts working in a company. Induction training should also be regarded as educational, since most companies present an industry overview as well as hygiene and health care as it applies to the worker. A good induction course will also include how equipment sanitation is related to food safety and the effects of cross-contamination. These topics will be covered in general terms before particular training is given in the department where a person will be working. It must be emphasised that induction training is not enough; training and regular retraining must be part of the training programme of a company.

SANS 10049, 7.3.3, 7.4.4,
SANS ISO TS 22002-1, 8.4
SANS ISO 22000, 6.2.2
SANS 1678, 5.9
SANS 1679, 5.9
CGCSA FSI GMCP I.B, 4.1-4.3, B.C 1.5

Retraining ideally should not only be a repetition of a particular training programme. It may well take the form of an audit of a person, or a group of people, using the original training programme as the reference for the audit. This will establish how well the people have understood the skills that they have mastered whilst training. What must be determined is how effectively each person is applying those skills to his/her particular task or tasks within the factory.

It is also important to realise that there are differences between technical and administrative training.

Training programmes in industry generally comprise the following:

- Induction of new employees.
- Core programme of job-related training.
- Career/personal development, such as presentation techniques, writing skills.
- Self-development options.

CGCSA FSI GMCP 1.A 1, I.A 3, I.A. 9, B.B 1

Training should also ensure that staff are aware of their responsibilities regarding quality and food safety.

2. Staff training

R 962, 10
SANS 10049, 7.5.1
SANS ISO 22000, 6.2.2
SANS 1678, 6.3
SANS 1679, 6.3
CGCSA FSI GMCP 1.A 1, I.A 3, I.A. 9, B.B 1

Management is responsible to ensure that all food handlers receive adequate and continuous training in the hygienic handling of dairy products and in personal hygiene. This will assist in ensuring that staff are aware of which precautions to take in minimising the contamination of products.

The staff responsible for training must be appropriately competent and records of all learning interventions must be maintained. These may range from informal to formal, whether qualifying or not.

All staff should undergo appropriate personal hygiene induction training prior to commencing work. This includes temporary staff, where used.

Within three months of commencing employment all staff should have undertaken food hygiene training that is commensurate with their work activity.

Management staff at supervisory and more senior levels should have more advanced hygiene training relevant to their responsibilities.

CGCSA FSI GMCP 1.A 1, I.A 3

There should be a programme of regular updated training/retraining based on needs identified during internal audits, customer complaints and any process or product changes.

SANS 10049, 7.5.4
CGCSA FSI GMCP 1.A 1, I.A 3, I.A. 9, B.B 1

Although training is required, the need for consistent supervision and enforcement of the correct practices is essential to ensure the application of knowledge and skills acquired during training.

All training should be recorded and employees as well as trainers should sign a register to acknowledge their completion of the specific training process. Attendance registers are a useful administrative aid for this.

The effectiveness of training must be assessed to ensure that the training achieved its objective. This can be done through on-the-job observations or knowledge tests. The method used must be fair and should accurately reflect the employee's understanding and skill. Some important characteristics of effective assessment include, but are not limited to, sufficiency, fairness, relevance, validity, authenticity and appropriateness.

SANS 10049, 7.5.1
SANS ISO 22000, 6.2.2
SANS 1678, 6.3
SANS 1679, 6.3
CGCSA FSI GMCP 1.A 1, I.A 3, I.A. 9, B.B 1

All new staff and new contractors must undergo induction training in personal hygiene. This should include a short introduction to the company, its background and its functions.

SANS 10049, 7.5.5
CGCSA FSI GMCP B.B 1

Special attention must be given to:
- The hygiene code of practice.
- An agreement to report illness.
- Hand washing procedures.
- Cleaning schedules etc.
- Policies, procedures and work instructions.

Other: Staff assessments should be done regularly to decide whether key personnel are sufficiently trained for the specific jobs they perform. If there is a need for specific technical training, this should be arranged either internally or with a recognised training consultant.

The training programme should be revised every year and an appropriate corrective or further developmental programme should be established.

The literacy and numeracy skills of staff should also be monitored as this can impact on the integrity of any records required for quality and food safety purposes.

3. Roles and responsibilities regarding different approaches in vocational training: a perspective

Vocational training exhibits three different approaches. In brief terms these can be described as:

- Informal.
- Non-formal.
- Formal.

None of these are totally separable from one another. They differ in magnitude, content, involvement of functionaries and beneficiaries, as well as in the end result. Nevertheless, all three contain all of the mentioned characteristics.

The following table attempts to compare the three approaches in terms of these characteristics.

3.1 Informal

Approach	Magnitude	Content	Functionaries	Beneficiaries	End result
Can be termed internal coaching.	Very brief in duration.	Knowledge component extremely limited, mainly to the why and how. The why normally does not extend to the main aim of the activity.	Driven by the direct or first line supervisor accountable for the activity.	May be conducted for various levels of learners, but usually aimed at basic and/or focused skills, which do not require a large knowledge content.	Preferably at least a checklist recording one or a number of observations, confirming the proficiency of the beneficiary.
Based on parts of or complete outcomes of registered unit standards, but does not provide credits towards or complete qualifications.	Highly focused on a single activity or a group of related activities.	Practical component substantial, and may utilise work instructions, or standard operating procedures, or operators' manuals as training aids.	Coordinated by section or department supervisor.	General workers who perform cleaning and sanitising, packing, stacking and moving of raw materials or finished products, under direct supervision.	Records of single or multiple such interventions ought to be kept by both the supervisor and the administration (the latter on a personal file).
May be used as evidence for recognition of prior learning.	Format normally consists of limited discussion and brief demonstration followed by extensive practicing, firstly under intense supervision, and later with less direct supervision.		Use may be made of experienced operators as instructors.		Internal certification by the enterprise may serve as incentive.

	Very informal assessment of proficiency, if any, is conducted. This is normally by observation only. Basic skills are focused on, whilst limited knowledge comprehension or understanding is assessed.				Intervention is aimed at producing operationally proficient learners.
	Mostly conducted on site.				

3.2 Non-formal

Approach	Magnitude	Content	Functionaries	Beneficiaries	End result
Can be termed external coaching.	More substantial in duration (e.g. one or a few days in the form of a scheduled event).	External provider usually presents notes or manuals, which may or may not contain knowledge contents, but normally contains checklists and forms for practical implementation.	Usually driven by a middle or senior supervisor, and coordinated by one or more first line supervisors (depending on whether learners are drawn from different departments or not).	Usually the targeted learners are deployed in a specific role, but generic training by this means is not impossible. Thus, may be conducted for various levels of learners.	Preferably at least a checklist recording one or a number of observations, with or without knowledge questionnaires, confirming the proficiency of the beneficiary.
May be based on parts of or complete outcomes of registered unit standards, but does not provide credits towards or complete qualifications.	Normally also very focused, e.g. with the aim of instituting a management system like GMP or HACCP, or the commissioning of new equipment.		External provider's instructor/ representative conducts both instruction and assessment (if the latter is done).	May be single learners or operationally connected teams.	Records of single or multiples of such interventions ought to be kept by both the supervisor and the administration (the latter on a personal file).
May be used as evidence for recognition of prior learning.	May be conducted either on site or off site, in both cases (usually) solely by the external provider or representative.				External certification by the provider may serve as incentive.
	Assessment, if done, is usually conducted by the external provider, and reports of the learners' performance should be presented to the company. This may contain both theoretical and practical components.				Intervention is aimed at producing operationally proficient learners and/or teams.

3.3 Formal

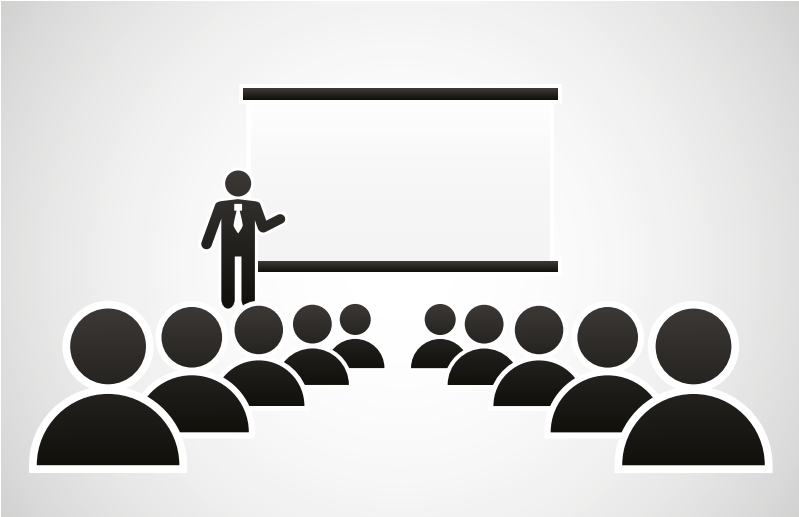
Approach	Magnitude	Content	Functionaries	Beneficiaries	End result
Can be termed outcomes-based education and training (OBET).	Based on a submitted and SETA-approved 'Workplace Skills Plan'.	Depending on whether the skills set is theoretically biased or practically orientated, a planned balance in the knowledge and practical components will always be struck.	Driven by middle to senior supervisors.	Extremely varied in both level of learner and discipline of activity.	Portfolios of evidence of all provided events and assessments for every individual learner. These are supposed to be complete learning histories.
Will always be based on qualifying collections of registered outcomes of learning and provide credits towards or full qualifications or at least skills programme certificates.	Learners are formally enrolled in registered skills programmes or learnerships, which in turn may be based on unit standards or exit level outcomes (as in the case of academic and higher education interventions).	Manuals are presented that conform to the contents and assessment requirements of registered learning standards. These will include the appropriate volume of theory and practicals.	Coordinated at section or department level by first line supervisors.	Both full qualifications and skills programmes (employable skills sets contributing to qualifications) are offered to various levels of workers from all functional groupings in a business.	Interventions are aimed at operationally competent and holistically developed learners.
Evidence of completed parts of qualifications or skills programmes may be used for future recognition of prior learning to achieve formal certificates.	Highly organised, with scheduled provision and assessment arrangements, which are formally reported on, so as to ensure credit allocations to successful learners on the National Learner Record Database.		Whether conducted on site or off site, either internal or external Education and Training Development (ETD) practitioners (instructors, coaches or mentors) will physically conduct presentations.	Current "dairy" interventions are aimed at the primary activity, i.e. product manufacturing.	
Certified and/ or qualified learners, which should be more than operationally proficient, implying internalised knowledge and comprehension over and above manually skilled labour.					

Very dependent on time off for learners and availability of physical training (= production) facilities.		The same or other internal or external, qualified functionaries.		Mandatory and discretionary.	
Workplace providers must be accredited. Alternatively, for off-site provision, the external facility must be accredited.					

3.4 Conclusion

From the above comparison it can be deduced that internal coaching and external coaching have, to slightly different extents, the aim of providing operationally proficient learners, which may be biased towards mainly manual skills, with only limited cognitive skills. Unfortunately this kind of training is not formally recognised for learning credits.

SANS 10049, 7.5.1
SANS ISO 22000, 6.2.2
CGCSA FSI GMCP 1.A 1, I.A 3



However, the value of this training is not disputed as it is the ideal way to "get learning going" in a short space of time. Training resources in this case would be work instructions, standard operating procedures and/or operator's manuals. Training would be carried out by more experienced staff and this training is usually done on the job. Attention must be given to the ability of in-house trainers to effectively train and ensure that all training material is factually correct. The bridged format training series (published in The Dairy Mail) may serve such a purpose.

In the formal OBET approach, both external or internal providers and assessors may be used. Currently, the dispensation in the dairy industry utilises an established training unit that develops learning materials and assessment guides in conformance to the requirements of the registered learning standards. Furthermore, it maintains non-formal contact with a network of trainers that may be contracted by industry members.

4. Recommendation on possible specialised training providers

As cleaning is a specialised activity, this should receive the appropriate attention. This training should also take into account the safety aspects such as protective clothing and treatment in the event of an accident as this is a requirement of the occupational health and safety legislation. Training should include HOW to clean and the different chemicals used, not only personal hygiene issues.

The pest control subcontractor can provide useful insight on the importance of housekeeping and hygiene to prevent pest harbourage, pest sightings and reporting thereof.

5. SETA accreditation

The aim is to base all formal training on registered unit standards of learning or a registered vocational curriculum. A unit standard covers all the knowledge and practical skills contained in a competency. Collections of these competencies lead to full qualifications or part qualifications (via skills programmes). These have just been revised and submitted for reregistration by the South African Qualifications Authority (SAQA), on the National Qualifications Framework (NQF).

IMPORTANT LINKS

DOCUMENTATION

Remember to refer back to Chapter 12 and the DVD for more details on the suggested documentation required for raw milk handling

CHAPTER 12
DOCUMENTATION AND RECORD CONTROL

Chapter 12: Documentation and Record Control

1. Introduction

To be effective, food safety and quality management systems should be documented. In addition to policies and procedures, which direct the organisation towards a common food safety goal, records provide evidence that the system is effectively implemented and supports a due diligence defence.

2. Management commitment

Food safety is a legal requirement and the law places the responsibility for food safety on the shoulders of the person in charge.

R 962, 6

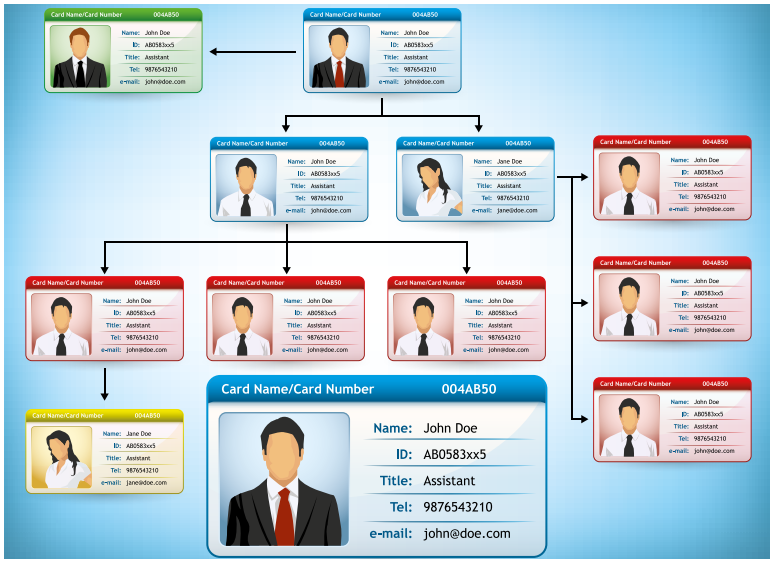
Food safety management starts with management's commitment. Food safety can only be effective if management demonstrates its commitment and dedication. Regardless of what standard is introduced, the senior management of the organisation should develop and record its food safety policies and should take all necessary measures to ensure this policy is understood, implemented and maintained. The policy should be a clear message to all customers and employees regarding the commitment of the organisation to food safety.

SANS 10049, 6.1
SANS ISO 22000, 5
SANS 1678, 4
SANS 1679, 4
CGCSA FSI GMCP I.A.1

Management's role also involves reviewing the system implemented at the facility. The implementation of food safety and quality systems requires a substantial investment. Besides the legal requirement for this, a return on the investment should be the objective.

In order for this to be realised, management should be involved with the food safety and quality management system on a daily basis and conduct a comprehensive annual review to ensure that the systems are effective.

SANS 10049, 6.2
SANS ISO 22000, 5.8
CGCSA FSI GMCP I.A.1



Management will need to provide resources for the development of the system and the ongoing maintenance of the system. Food safety and quality should be part of the normal budget requirements for the dairy processing facility.

SANS 10049, 6.4
SANS ISO 22000, 6
CGCSA FSI GMCP I.A.1

In order for staff to contribute effectively to food safety and quality, roles and responsibilities should be clearly defined and objectives put in place to unify efforts.

SANS 10049, 6.2, 6.3
SANS ISO 22000, 5.4
CGCSA FSI GMCP I.A.1.2

3. Recommendations

3.1 Food safety system

SANS 10049, 5
SANS ISO 22000, 4
SANS 1678, 4
SANS 1679, 4
CGCSA FSI GMCP I.A.2
Chapter 1

A food safety and quality system is an organisation's structure indicating the required responsibilities, procedures, processes and resources to establish and implement food safety and quality. This system should provide confidence that it is effective and should supply a product or service that satisfies customer expectations. A food safety system should place the emphasis on problem/hazard prevention rather than dependence on detection after an occurrence.

3.2 Food safety policy

SANS 10049, 6.1
SANS ISO 22000, 5.2
SANS ISO R/S 22002-1, 13.8

A policy or a food safety and quality manual should contain a brief outline of the company and the service it renders, or products manufactured. This manual can also refer to procedures used to carry out specific duties/ processes.

A policy is a statement of intent stating the company's intents regarding a specific requirement.

A policy will be signed by the senior management to demonstrate its commitment and adherence to the food safety and quality system. Policies should be revised regularly (annually) and signed accordingly.

SANS 10049, 8.7.2
SANS ISO 22000, 4
CGCSA FSI GMCP I.A.2,I.A.3

Procedures are detailed documents stating who, what, when, where, why and how.

SANS 10049, 5.2.2
SANS ISO 22000, 4.2.2
CGCSA FSI GMCP I.A.2

Documents used in a food safety system should be kept in a controlled area and dedicated staff members must be responsible for the maintenance of master copies, filing and development of the documents.

3.3 Document control

SANS 10049, 5.2.2
SANS ISO 22000, 4.2.2
SANS 1678, 4
SANS 1679, 4
CGCSA FSI GMCP I.A.2

When documents are changed, a distribution register must ensure that all recipients get an updated copy. Obsolete or superseded documents should be withdrawn or identified, usually by a stamp. Controlled distribution should discourage "uncontrolled" photocopies that may become invalid.

A standard format should be considered for all documents to create uniformity and portray a professional image.

Documents should be written for the intended user and the literacy level of the users must be taken into account. The format of documents can include pictures, diagrams or even photos to improve the communication of the information.

SANS 10049 – wherever "PROCEDURE/ DOCUMENT" is used
SANS ISO T/S 22002-1, 15
CGCSA FSI GMCP - wherever the word DOCUMENTED is used.
Refer to the DVD

The following documents should be considered as a minimum:

- Food safety and quality policy.
- Document control procedure.
- Record control procedure.
- Procedure for corrective action and customer complaints.
- Procedures for rework and dealing with non-conforming products.
- Cleaning instructions.
- Recipes.
- Raw material and product specifications.
- Testing procedures.
- Processing specifications.
- Recall procedures.

This is not an exhaustive list.

3.3.1 Guidelines for document development

- Identify the requirement and define whether or not a document is required.
- Write a policy/procedure/work instruction that will accurately demonstrate the needs of the organisation in meeting the requirement.
- Ensure that records are kept and maintained, which will demonstrate the achievement of the requirement.
- Policies must be communicated to all staff members in a structured manner and appropriate training must be given to all staff members during the implementation of a policy/procedure/work instruction. Staff members must sign the training records and the policy document to demonstrate their commitment to and awareness of the policy.

3.4 Benefits of documentation

- A documentation system can ensure that a standard working practice is developed.
- Activities can be carried out in structured ways and the effectiveness can be evaluated and corrected.
- Documented procedures and instructions assist in meeting legislation regarding employers' liabilities.
- A documentation system is the basis for an internal and external audit to ensure that implementation is effective.
- Certification bodies require documentation systems. Customers also require formal documented systems.
- Documentation must be meaningful and add value, it must reflect the day-to-day activities

- The documentation system must be simple, clear and efficiently controlled.
- Documents require records to prove that procedures and work instructions were carried out and that corrective actions were done effectively.

4. Basic principles for documentation development

All quality and food safety management systems are based on the management principles of plan–do–check–act or plan–do–check–adjust (PDCA). This is an iterative four-step management method used in business for the control and continuous improvement of processes and products.

The PDCA cycle is applied by firstly developing a policy statement of intent on WHAT the company will allow/aim for. Thereafter the required procedures would be developed using the PDCA principles as follows:

"PLAN" Procedure detailing the who, what, when, where, why and how to implement this policy.

"DO" Implementation of the procedure on a daily basis as part of the way the company operates.

"CHECK" Monitor/measure the process and products against policies, objectives and requirements for the product and report the results. Records of actions with specifications to determine the adherence and deviations from the specifications. Determine the limits if any deviation from specification is identified.

"ACT" Corrective actions to continually improve process performance.

4.1 Example

"PLAN"

Policy

1. Example Dairy will produce milk that complies with the legal specification of Regulation R 1555 (Act 54 of 1972) and must be fit for human consumption.
2. Antibiotics/inhibitory substances must not be present in milk (Regulation R 1555) for further processing. (Standard)
3. All incoming milk will be tested prior to acceptance and will only be offloaded if found to comply.

Procedure

The tanker driver will take reference samples from every milk supplier when milk is collected according to work instruction Nr 1 Safe Milk Processing Guidelines for Laboratory Implementation manual.

Chapter 7

Who?
The trained tanker driver.

Where?
From each milk supplier.

When?
Upon collection of milk.

Why?
To ensure that the milk adheres to the minimum requirements.

How?
By testing as per method.

4. On arrival at the factory samples from the different compartments of the tanker will be tested according to work instruction Nr 14 in laboratory manual Safe Milk Processing Guidelines for Laboratory Implementation (Antibiotics).
5. If a sample from tanker compartment is positive, individual reference samples from suppliers will be tested with the Copan testing method to determine who is responsible for the contaminated milk.
6. Should the milk of a supplier test positive, he or she will be notified and will be held responsible for the compartment that is rejected and disposed of.
7. The contract with the milk supplier (Document Nr 13) stipulates that if milk is positive for inhibitory substances, the supplier will be liable for the compartment of milk that was rejected.

"DO"

The tanker driver (who) takes individual samples of milk from every milk supplier daily (when). An additional simplified work instruction may be necessary for the driver (step by step of what must be done). Analysis for antibiotics/inhibitory substances will be done according to the Copan test at reception on all compartments of the tanker milk.

"CHECK" Specification: antibiotics must not be present (negative).
- Positive: Yellow colour
- Negative: Purple/blue colour.

Records are kept of all the tests.
- From time to time an internal audit is carried out to ensure that the driver does the test in the correct way.
- Records of the tests are checked by the supervisor/ factory manager on a regular basis.

"ACT" Corrective action
If positive/present:
- Notification to milk supplier.
- Reject the milk for further processing.
- Keep records.
- Implement corrective action.

5. Control of quality and food safety records

SANS 10049, 5.2.3,5.2.4
SANS ISO 22000, 4.2.3
SANS 1678, 4
SANS 1679, 4
CGCSA FSI GMCP I.A.2

Records are the documented evidence of the food safety and quality system checks and compliance to procedures. These records provide evidence to auditors and management that the system is being complied with. These records may be retained for longer periods, as required by insurance companies, to provide evidence of due diligence in the event of legal proceedings.

Records should be reviewed by management to ensure that the correct information and the need for corrective action is recorded.

Records should be protected by proper collection, indexing and filing systems. Responsibilities for these activities must be defined to ensure that the records are kept. Retention periods must be documented and these should take into account the shelf life of the products.

Records of tests on raw materials and finished products are to be held on site for at least 12 months. If the shelf life of the product exceeds this period, then the records are to be held for the duration of the shelf life of the products.

Records of in-process checks on food safety documents are to be held for a period of at least four months, depending on the sell by date of the product.

Records can be held electronically but must be accessible to the auditor for review, e.g. pasteuriser, CIP, cold room temperature data, temperature loggers. Backups and security to these are recommended.

Other records that should be retained:

- Records of calibration and verification of equipment such as scales and pasteurisers.
- Training records.
- Medical records and records of fitness checks.
- Cleaning records.
- Cleaning efficacy records.
- Pest control service records.
- Customer complaints.
- Receiving records.
- Certificates obtained from suppliers.
- Records of chiller temperatures.
- Records of truck inspection.
- Records of water checks.
- Internal audit records.

This is not an exhaustive list.

SANS 10049 – wherever "RECORD/S/ED" is used
CGCSA FSI GMCP - wherever the word "RECORD/ED" is used
Refer to the DVD

6. Corrective actions

Where monitoring measures identify that a product does not comply with the planned requirements, the cause of the problem must be identified and corrective action taken to ensure that the problem does not occur again. It may be necessary to destroy or reprocess a product.

SANS 10049, 10.1
SANS ISO 22000, 7.10
CGCSA FSI GMCP BA.1.1, I.A.7, I.A.8

Corrective actions taken shall be recorded.

In-process corrective actions should be recorded on operator's log sheets.

Corrective actions resulting from laboratory analysis failure or customer complaints require formal documentation such as a complaint form or corrective action record.

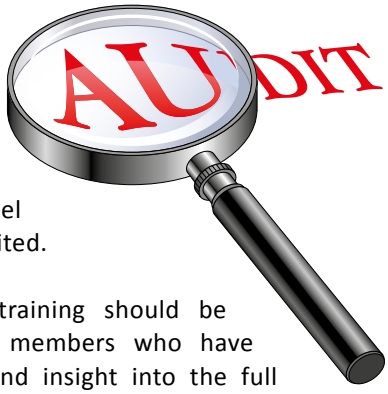
Corrective actions must include a thorough investigation to identify the root cause of the problem before the wrong action is implemented that may not be effective.

7. Internal audits

Internal audits are to be conducted by staff within the organisation, but, where possible, by persons who are independent of the operation being audited. These audits should review the entire system to ensure compliance to the system requirements, such as detailed in this document, adequacy of the system to achieve its purpose, to identify changes required in the system and to identify areas on non-compliance so that corrective and preventive action can be taken.

SANS 10049, 10.3
SANS ISO 22000,8.4.1
SANS 1678, 4
SANS 1679, 4
CGCSA FSI GMCP B.A.3, B.A.5, I.A.4,

A record of the findings of the internal audit is to be available for audit.



Results of the audit are to be brought to the attention of personnel responsible for the section being audited.

As this is a specialised activity, training should be considered for at least two staff members who have sufficient organisational authority and insight into the full range of business activities.

Internal audits should be very stringently applied as these should provide top management with more in-depth information about the food safety and quality systems than any external audit can.

Management personnel responsible for the area are to take timely corrective actions on deficiencies found during the audit.

Procedures should be in place as well as checklists for daily, weekly, monthly and yearly inspections. This can be used for maintenance and hygiene issues.