

NQF Level: 1 US No: 116166

Learner Guide

Primary Agriculture

Apply Basic Food Safety Practices



My name:

Company:

Commodity: Date:

Before we start...

Dear Learner - This Learner Guide contains all the information to acquire all the knowledge and skills leading to the unit standard:

Title: Apply basic food safety practices
US No: 116166 NQF Level: 1 Credits: 1

The full unit standard will be handed to you by your facilitator. Please read the unit standard at your own time. Whilst reading the unit standard, make a note of your questions and aspects that you do not understand, and discuss it with your facilitator.

This unit standard is one of the building blocks in the qualifications listed below. Please mark the qualification you are currently doing:

Title	ID Number	NQF Level	Credits	Mark
National Certificate in Animal Production	48970	1	120	<input type="checkbox"/>
National Certificate in Mixed Farming Systems	48971	1	120	<input type="checkbox"/>
National Certificate in Plant Production	48972	1	120	<input type="checkbox"/>

Please mark the learning program you are enrolled in:

Your facilitator should explain the above concepts to you.

Are you enrolled in a:	Y	N
Learnership?	<input type="checkbox"/>	<input type="checkbox"/>
Skills Program?	<input type="checkbox"/>	<input type="checkbox"/>
Short Course?	<input type="checkbox"/>	<input type="checkbox"/>

You will also be handed a Learner Workbook. This Learner Workbook should be used in conjunction with this Learner Guide. The Learner Workbook contains the activities that you will be expected to do during the course of your study. Please keep the activities that you have completed as part of your Portfolio of Evidence, which will be required during your final assessment.

You will be assessed during the course of your study. This is called *formative assessment*. You will also be assessed on completion of this unit standard. This is called *summative assessment*. Before your assessment, your assessor will discuss the unit standard with you.

Enjoy this learning experience!

How to use this guide ...

Throughout this guide, you will come across certain re-occurring “boxes”. These boxes each represent a certain aspect of the learning process, containing information, which would help you with the identification and understanding of these aspects. The following is a list of these boxes and what they represent:



What does it mean? Each learning field is characterized by unique terms and **definitions** – it is important to know and use these terms and definitions correctly. These terms and definitions are highlighted throughout the guide in this manner.



You will be requested to complete **activities**, which could be group activities, or individual activities. Please remember to complete the activities, as the facilitator will assess it and these will become part of your portfolio of evidence. Activities, whether group or individual activities, will be described in this box.



Examples of certain concepts or principles to help you contextualise them easier, will be shown in this box.



The following box indicates a **summary** of concepts that we have covered, and offers you an opportunity to ask questions to your facilitator if you are still feeling unsure of the concepts listed.

My Notes ...

You can use this box to jot down questions you might have, words that you do not understand, instructions given by the facilitator or explanations given by the facilitator or any other remarks that will help you to understand the work better.

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What are we going to learn?

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What will I be able to do?

When you have achieved this unit standard, you will be able to:

- ◆ Apply sound food safety principles by identifying risk factors in food contamination and applying preventative measures to ensure product safety.

Learning Outcomes

When you have achieved this unit standard, you must know:

- ◆ Effective personal hygiene practices.
- ◆ Risk factors related to food safety.
- ◆ Basic principles of food safety.
- ◆ Food borne illnesses.
- ◆ Hygiene principles.
- ◆ Impact of food safety in trade.
- ◆ The purpose for the study of Food Safety.
- ◆ Names and terms particular to food safety practices.
- ◆ Procedures in place to ensure food safety.
- ◆ All relevant legislation related to food manufacture and food safety.
- ◆ The relationship between food, food safety and food production.

What do I need to Know?

No prior learning is required in order to complete this unit standard.

My Notes ...

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Session

1 Good Personal Hygiene Practices

After completing this session, you should be able to:
SO 1: Apply good personal hygiene practices.

**Cross contamination:**

Refers to actions, areas and equipment in a high-risk area that can contaminate a low risk manufacturing area.

Food or beverage safety:

Refers to all practices and procedures that will ensure that food or beverage is safe for consumption by human beings. These practices and procedures are applied from raw material receiving, handling and storing until the final product is manufactured, stored and sold to the customer.

Food or beverage manufacturing environment:

Refers to storage of raw and final products, work area around equipment, processing line and equipment and building structure.

High risk area:

Refer to an area or product that is sensitive to microbiological contamination.

Standard operating procedures:

Refer to company procedures, prescribed procedures from the manufacturer, personal and food safety procedures, good manufacturing practices, best practices, applicable legislation, time frames, recipes and specifications

1.1 What are hygiene and sanitation practices?



Hygiene and sanitation practices: are the things we do to keep ourselves, the plant and the food product we process, clean. This includes:

- ◆ Hand washing.
- ◆ Clean uniforms.
- ◆ Following work instructions.
- ◆ Cleaning the plant during and after production.

Hygiene and sanitation is all about producing safe food. All food processors including farm workers have a responsibility to produce food that is safe to eat. Consumers expect to be able to eat food products without becoming ill or getting a disease.

Food safety is achieved through the hygiene and sanitation procedures that we follow to ensure our food remains wholesome and as free from contamination as we can make it. Minimum standards of hygiene and sanitation are prescribed by law and must be followed.



1.2 Professional appearance and hygiene

First impressions are formed within 30 seconds and a major contributing factor to the image anybody has of your organization. By dressing for the workplace and maintaining high personal hygiene standards you indicate and create the impression that you have respect for yourself.

■ Professional Appearance

- Step 1** Uniforms should be worn as per company regulations, but should be clean and tidy.
- Step 2** **Wear only closed toed safety shoes / water boots.**
- Step 3** Hair must be neat and trim, or pulled back to avoid falling onto face. Facial hair is not recommended, although it should be kept neat and tidy if it is allowed within your place of work. It should be covered at all times in the food prep areas.
- Step 4** Identification, in the form of name badges or tags, should be neatly and prominently displayed on your person.
- Step 5** Nail polish is not allowed. Nails should be short and clean.
- Step 6** If you have body-piercing you are not allowed to wear the studs that are associated with it in your place of work.
- Step 7** Staff is not allowed to wear lots of jewels. Rings, except wedding bands, are unacceptable.

Personal Hygiene

- Step 8** Staff must wash their hands after touching their face and hair.
- Step 9** Staff should wash their hands thoroughly with a sanitizer after visiting the toilet.
- Step 10** Staff should wash their hands regularly with soap and warm water.
- Step 11** Staff should shower, use deodorant and change underwear everyday.
- Step 12** Wear a clean work uniform everyday.
- Step 13** Clean teeth everyday.
- Step 14** Have neat and clean fingernails.
- Step 15** Wash hair regularly.

1.3 Uniforms and hygiene

The purpose for wearing uniforms is to protect you, the product and to enhance the food safety conditions in the workplace.



What type of personal protective clothing should be worn?



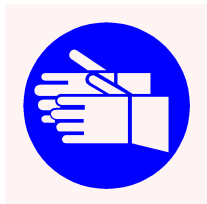
A net to cover the hair on your head

Should be used if you where a beard

OVERALL/COAT: Should be of the correct size. Must be "z up" at all times and the sleeves should not be folded up.

OVERALL/PANTS: Should not be short or torn.

SAFETY BOOTS: Must be worn at all times in a factory. It must be laced-up and a pair of socks must be worn.



Uniforms are not only designed to be smart, but also to provide necessary protection. For example a uniform is designed in such a way as to protect your arms, chest, legs and feet from injury as a result of chemical burns.

The shoes that are worn for work are designed to support the feet, and provide a firm footing as staff go about their work briskly, as well as to protect the feet should something heavy fall on it. Protective clothing such as head gear is designed to prevent the spread of bacteria, which is carried on the skin, in the hair, and in the saliva, and the spread of which can cause disease and infection.

All Uniforms including protective clothing should be:

- Clean and freshly laundered.
- In good condition.
- Closed, flat, safety shoes only
- Shoes must be clean, polished, in good condition.

1.4 Specific challenges of hygiene that face the agricultural industry

Jobs within the agriculture industry are varied and often physically demanding and it is likely that staff will get hot and sweaty when working, resulting in bad body odour.

This can be uncomfortable or offensive to other people you work with.

Personal hygiene is about keeping the body clean and healthy.

This is important because the body carries bacteria on the skin and in body fluids that can be transferred to the things that are touched, especially food.



1.5 Personal hygiene

Personal hygiene is an important aspect of how you take care of and demonstrate your respect for yourself. Good personal hygiene is an important aspect of taking care of your health, and also influences how people respond to you in a working and social situation.

Maintain personal cleanliness and hygiene according to company policy to prevent illness, contamination and infection. In the table below find guidelines for the various categories of personal hygiene and reasons why this is important.

Category	Reasons
Regular Bathing/Showering	<p>All staff should at least wash, bath or shower once per day to diminish body odours, caused by the breakdown of sweat.</p> <p>Wash hair regularly.</p>
Deodorant	<p>Some agri-processing establishments have strict rules on the use of perfume in certain areas. It is the responsibility of staff to find out the organisation's requirements in regard to this aspect of personal presentation.</p> <p>Be aware that some people may be sensitive to strong smelling perfumes especially in areas where food is being processed.</p> <p>Strong perfumes can contaminate food.</p> <p>Do not use perfume to cover up bad body odour this can only be removed by showering everyday.</p>
Washing Hands	<p>Hands carry a lot of bacteria and because hands are used for almost every activity, they should be washed before handling food, coming on duty or entering the pack store and after any activity that could contaminate them.</p> <p>These activities include:</p> <ul style="list-style-type: none"> • Touching or scratching any part of the body including areas such as ears, mouth, nose or hair. • Blowing noses or using a handkerchief or tissue. • Touching dirty equipment or work surfaces. • Handling food. • Handling money. • Smoking a cigarette. • Using the toilet. •

Category	Reasons
<p>Washing Hands (cont.)</p>	<p>Washing hands properly: Hands should be washed thoroughly in a hand basin using hot water and anti-bacterial soap; it is not enough to rinse them under running water. Do not use a food sink; this is for washing equipment not hands. When washing hands follow the steps below: Water should be as hot as one can bear it.</p> <ul style="list-style-type: none"> • Use an anti-bacterial soap. • Wet hands and arms thoroughly and lather both the hands and arms up to the elbows. • Scrub the hands thoroughly and use a brush to remove any dirt from under the nails. • Rub hands with soap for at least 20 seconds. • Rinse hands thoroughly under hot running water. <p>Dry hands using a paper towel. Never dry hands on aprons or wiping cloths, with cloth towels or under electrical hand dryers, as this promotes the growth and spread of bacteria.</p>
<p>Smoking</p>	<p>Staff may under no circumstances smoke in the food processing unit.</p> <p>Smoking is prohibited because :</p> <ul style="list-style-type: none"> • Saliva comes into contact with the fingers and can spread; • Saliva particles, or cigarette ash and butts can land in the food. • Smoking encourages coughing; • Smoking may result in an unsatisfactory work atmosphere for non-smokers; • There is a risk of contaminating production areas from fingers touching the lips while smoking; and • Cigarette ends, contaminated with saliva are placed on work surfaces.
<p>Cleaning Teeth</p>	<p>Teeth that are not brushed regularly lead to bad breath, tooth decay and gum disease. Badly looked after teeth and bad breath are noticeable and will affect the personal image of the staff member and the image of the establishment.</p> <p>In order to care for teeth properly, follow these general rules:-</p> <ul style="list-style-type: none"> • Brush teeth each morning and evening • Use dental floss everyday to remove food trapped between teeth. If this food is not removed it will attract bacteria that cause tooth decay and bad breath. • Use an antiseptic mouthwash to reduce harmful bacteria and to freshened breath. • Visit a dentist at least once a year.

1.6 What Action to take when you or other staff are sick

If a staff member has any illness or infection, report this to the Foreman or Manager, who will decide if he/ she may continue to work.

If the condition is sensitive, staff may discuss it with the Human Resources Manager, who will take it up with the Production manager.

Obtain a doctor's certificate if staff has an illness which prevents them from working or which is infectious.

Do not work if you have an infectious stomach illness.

1.7 Common illness or disease



Common illness or disease could contaminate food with viruses or bacteria. It is therefore important to avoid it in the interest of food safety:

Illnesses	Interaction Steps
<p>TB, Colds & Flu</p>	<p>Diseases like tuberculosis, colds and influenza are very infectious diseases that are passed onto other people by the germs released into the air when staff cough or sneeze. Each time staff coughs, sneeze or blow noses into a handkerchief or tissue staff must wash their hands thoroughly. If staff find out that they have any of these illnesses they must tell their supervisor straight away and see a doctor, who will then determine the severity and whether there is a risk to the safety of the food product. These types of illnesses fall into a high-risk area in terms of food product safety.</p>
<p>Mumps/ Measles/ Chicken Pox</p>	<p>These are infectious illnesses and can be contagious to other staff members as well as contaminating the product. Staff should therefore not work, even if they feel well enough, nor interact with others but rather be booked off by a doctor.</p>

Illnesses	Interaction Steps
Headache	Depending on the severity of the condition, staff may be able to interact with others due to the fact that this is not contagious. Should staff require medication to rectify the condition, the medication should be one that does not include drowsiness as a side effect, as it might be detrimental to their own personal safety as well as to the safety of the food product.
Migraine	This is a condition, although not contagious, can be very dangerous for food safety. It can cause vomiting and nausea. Staff suffering from this condition should therefore not work. Noise and bright lights should also be avoided as this can aggravate the situation.
Diarrhoea	If it is a symptom of another type of illness which might be detrimental to food safety. Staff should see a doctor who will decide on the seriousness of the disease and who will assess the risk to the safety of the food product. If it is a virus, staff should not interact, nor work with others, as this could be passed on. Diarrhoea is sometimes not contagious; however it is preferable that staff with this condition rather refrain from working with the food product.
Other	Other illnesses that will not allow staff to interact with others are for example, hepatitis and certain skin conditions. HIV, although infectious, is only infectious under certain circumstances, e.g. contact with blood or through sexual transmission. It is important to the possible risk to food safety, but beware not to victimise HIV/AIDS sufferers. Rather take extra precaution in the form of providing disposable protective gloves as part of uniform and ensure that all staff are well informed and extra careful should the need for first aid arise when assisting any employee who has been injured.

1.8 Food Contamination

■ What is cleaning?

The basic aim of cleaning is to remove material that is harmful to the product, unsightly or likely to provide food for bacteria.

There are generally two types of material that have to be removed:

- ◆ **Water-soluble** – may be rinsed with water. The material dissolves into the water and is rinsed away, e.g. dirt and dust.
- ◆ **Water-insoluble** – material which will not dissolve in water, but will dissolve in detergents, e.g. blood, fats or oils.



Please complete Activity **1 and 2** in your learner workbook

My Notes ...

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Concept	I understand this concept	Questions that I still would like to ask
Effective personal hygiene practices are demonstrated.		
Current health status is judged and a decision whether to report is made.		

My Notes ...

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Session

2 Risk factors in food contamination

After completing this session, you should be able to:

SO 2: Demonstrate an understanding of risk factors in food contamination.

There are 3 types of factors that could influence food security and cause contamination, namely:

- ◆ Physical Factors,
- ◆ Chemical Factors, and
- ◆ Microbiological Factors.

2.1 Physical Factors

■ Handling:

The food product in the packing shed or storage environment can be contaminated by:

- ◆ Being dropped on the floor / ground.
- ◆ Being brushed up against unhygienic surfaces such as walls.
- ◆ The workers handling the food product not having good personal hygiene.

■ Storage:

Correct temperature is one of the main weapons in controlling bacteria growth. Food products should be put into the freezers or chillers as soon as possible. The quicker the surface temperature gets below 4°C the less the chances of bacteria growing.

If food products are packed too tightly into a chiller, then the chilled air cannot circulate properly and hot air pockets form. The temperature of the food product does not drop quickly and bacteria can multiply. This has a dramatic impact on the shelf life of the product.

The temperature of the food product should be checked regularly. Food products should be packed in cardboard boxes with plastic liners to protect the food product from becoming bacterially contaminated.

When raw materials are received at the processing area, it is important to inspect:

- The transport vehicles for irregularities that could result in the contamination of the materials being delivered.
- The time-temperature requirements (when applicable) to ensure that the goods received, meet the factory's specifications, before it can be introduced into the processes
- Upon delivery a certificate of analysis must accompany all raw materials from the supplier for each production code.
- The packaging of the material, to ensure that it is still intact – raw materials in damaged packaging are not allowed to be accepted.
- All raw materials that are bought must be in the packaging that will show if it has been tampered with.
- No unauthorized person may enter the stores in which raw materials are stored.
- The factory laboratory must pass every newly received raw material for suitability according to the methods laid down by the Quality Assurance Division.
- All raw materials must show their expiry date and NO expired raw materials can be accepted.

When storing materials, they must be stored:

- Off the floor and away from the wall to avoid possible dampening of the goods and for inspection purposes.
- On shelves.
- In a safe manner.
- According to set specification and in the correct areas or bins.

Handling materials:

- Spillage, leakage and waste in a factory must be correctly contained and disposed of.
- All products must be correctly labelled and damaged labels must be replaced immediately.
- All non-conforming products must immediately be transferred to a non-conformance area, away from the materials used in production.

■ The Floor and Dirt

Any item of food / beverage or raw product that falls onto the floor, or comes into contact with the floor must be thrown away immediately and may not be put back into the manufacturing process of the product.

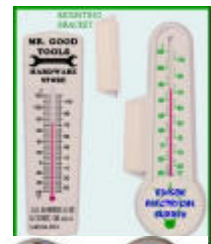
Avoid contact between the floor or other dirty surfaces, with materials that are used to pack or wrap the product. The materials (boxes and wrappers) must not be left overnight where they can be contaminated during the washing of floors or equipment.

■ Thermometers

A mercury thermometer may not be used to measure the temperature of a product because it can break and contaminate the food or beverage product with poisonous mercury.

As a rule alcohol thermometers are used instead of mercury thermometers, except where:

- ◆ The thermometer is used in a pipeline system or tank where it is separated from the product inside the tank by a casing that makes it impossible for the mercury to gain access to the product.
- ◆ The thermometer is bought to calibrate the thermometers in the factory. The thermometer must then be left in the personal care of the Head of the Laboratory.



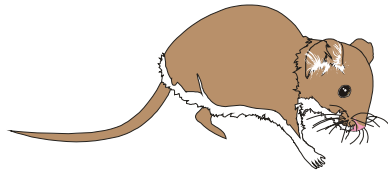
Hot tip!

- ◆ If a mercury thermometer should break, the mercury and glass bits are dangerous to the consumer.
- ◆ No glass apparatus, including sample bottles may be used where the glass comes into direct contact with the product in the process line or procedure,
- ◆ No pot scourers, steel wool and cloths may be used for cleaning purposes.

■ Pest control

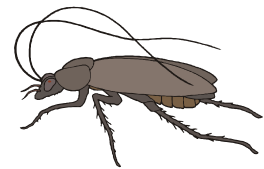
Why are rodents, insects and birds a threat to product safety?

Pests represent a real risk to the food safety of a food product. Insects such as cockroaches and flies spread bacteria. Blowflies lay maggots in the food product.



Rodents like rats and mice attack the packaging, eat the food product, leave droppings, spread contamination and destroy insulation and electrical wiring.

Birds on the food packing or production floor or in the storage room are a relatively rare problem, but birds nesting and living in covered stockyards are a real problem at some sheds. Their droppings contaminate the stock and the general environment around the plant. Birds can be kept out of nesting and roosting sites by netting. However, getting rid of birds once they are established is a difficult process.



How are they controlled?

All food areas must have an effective pest control program. All pests can be discouraged by making sure that products or scraps are not left to attract them.

The area should also be kept in good order to make sure there is no place for them to live or hide.

It is important that if you see signs of pests it is reported to the supervisors immediately. Pests in a food production area can threaten the operating license of that operation, especially if external reviewers or auditors see the signs.

These include droppings, chewed packaging and paper as well as polystyrene leaking from sandwich-board insulation.

Furthermore it will cause inferior product and cause the organization's market share to shrink.

All around food packing and processing areas, you will see bait boxes for rodents and/or insects. The poison in these boxes can harm or kill people. It must be kept away from the product and the surfaces that the food product comes in contact with. Broken or split bait boxes must be cleaned up and disposed of immediately in accordance with the workplace procedures.

Insects such as flies are kept out of processing areas by draft curtains. Food areas are also periodically 'fogged' to control insects such as cockroaches and fruit flies.

■ Contaminated or expired raw materials

Any raw material and/or ingredients that have been contaminated or is past its expiry date may not be used, unless they are checked by the laboratory and released as suitable.

Products, raw materials and/or ingredients not meeting specifications (legal or company specifications) and that have been rejected or returned may not be stored together with approved products.

Raw materials and/or ingredients may not be stored together with processed final products.

Raw materials and/or ingredients must be stored at about 15cm above ground level, preferable on palettes. Ingredients should be stored a minimum of 30cm away from walls.

2.2 Chemical Factors

You should know the following about the chemicals you use:

- ◆ How the chemical should be stored.
- ◆ Properties and uses of the substance.
- ◆ Health hazard information.
- ◆ Precautions for use.
- ◆ Safe handling requirements.

Insecticides, cleaning and fumigating agents



Insecticides, cleaning and fumigating agents must be kept away from product contact surfaces.

Insecticides must not be stored in the same place or area as food and beverage products and/or raw materials.

Cleaning agents must not be stored in the same place or area as food products and/or raw materials.

2.3 Microbiological Factors

There are different **micro-organisms** that threaten food safety. The most important micro-organisms in the food handling and production industry are:

- ◆ Bacteria
- ◆ Yeast
- ◆ Moulds
- ◆ Viruses



Micro-organism: is a living organism that is too small to be seen with the naked eye.

■ Where are micro-organisms found?

Micro-organisms are found everywhere where life is found e.g. in the soil, on the body, on cutlery, dairy equipment, etc.

■ What kind of conditions do micro-organisms need in order to grow and multiply?



Hot tip!

***Cooling does not kill bacteria;
it only retards their growth.***

■ Why is food safety important in terms of marketing & export?

Countries to which South African products are exported to, such as Europe and the United States, have strict requirements for imported fresh produce. If the South African produce does not meet these requirements, the produce will not be accepted and be returned.

■ Removal of micro-organism processes

How can Micro-organisms be destroyed to ensure food safety?

- ◆ Clarification.
- ◆ Bactofugation.
- ◆ Temperature treatments, such as
 - Cooling.
 - Heat treatment
 - Sterilization
 - Ultra high temperature: UHT treatment
- ◆ Removal of water.
- ◆ Raising the osmotic pressure.
- ◆ Acidification / lowering of the pH.



Please complete Activity **3 and 4** in your learner workbook

My Notes ...

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Concept	I understand this concept	Questions that I still would like to ask
Risk factors pertaining to food contamination are identified.		
The importance of food safety practices with regards to export and marketing is explained.		

My Notes ...

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Session

3 Preventative measures against food contamination

After completing this session, you should be able to:

SO 3: Apply preventative measures against food contamination.






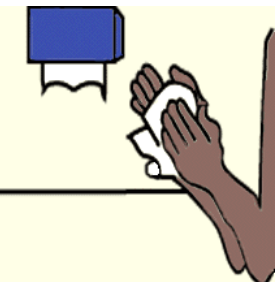
SO 4: Understand and adhere to warning signs regarding product safety.

3.1 General

Here are a few easy procedures to keep in mind that will contribute to food safety practices and prevent contamination:

1. Waste disposal	Throw everything that is not necessary for the process away immediately.
2. Chemical containers – Full & Empty	Store them correctly and separately or dispose of them immediately and correctly.
3. Working areas	Clean working areas.
4. Open wounds	Cover them immediately and wear an additional pair of disposable gloves. If there is any danger of exposure to the food product, the person should rather be placed on light duty.
5. Hand washing	Wash hands as per the previously discussed procedure as prescribed.

Follow these steps to wash your hands after working with pesticides or any other chemical:

Step 1	Step 2	Step 3
		
Wet hands thoroughly with warm water.	Apply antibacterial soap generously.	Scrub under nails with a clean nailbrush.
Step 4	Step 5	Step 6
		
Rub hands vigorously for at least 20 seconds.	Rinse hands thoroughly with warm water.	Dry hands using a single-use towel.

What would happen if we did not apply preventative food safety practices?

- ◆ Food would become contaminated.
- ◆ Consumers will become ill or sick from consuming it.
- ◆ We may lose our trading licenses.
- ◆ We may face fines or court cases.
- ◆ We may lose our market.
- ◆ Our business might go bankrupt.

3.2 Health & Safety Warning Signs that pertain to Food Safety Practices

- **What do you think this sign means?**



- **Chemical Substances or Toxins**



- **Danger signs**



**No smoking,
eating, or
drinking**



3.3 Harvest intervals & With-holding Periods

Pre-harvest intervals must be observed and under no circumstances should the recommended pre-**harvest** interval be ignored. For crops that are continuously harvested over an extended period of time, there must be a plan for crop protection that does not compromise food safety.



Pre-harvest intervals & With-holding periods: These concepts are concerned with the times when you apply chemicals to your crop - either poisons (crop protective), or fertilizing (crop enhancing) – and when you harvest.

Such a plan may involve the use of field markers that clearly identify those trees that are ready for **harvest** from the rest of the crop.

■ With-holding periods

Each type of chemical that may be applied during a spray program has a specific withholding period protocol (this can almost always be found on the label).

It is important to balance spray programs with harvest schedules in order to ensure that neither schedule is compromised at cost of food safety.

The farmer can demonstrate that all pre-harvest intervals have been observed for crop protection products applied to the crops, through the use of clear documented procedures such as crop protection product application records and crop harvest dates from treated locations.

3.4 How does food safety relate to the marketing of your Agricultural Product?

Hot tip!

Food suppliers have a strong economic interest in quickly isolating the source of food safety or quality problems.



Read the article and discuss it in class:

My Notes ...

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It all adds up – Woolworths removes all unnecessary additives

You prefer to know what you are eating, so Woolworths gives you the facts on food additives to enable you to make good choices.



There was a time when people could buy food fresh from the farm daily. Our grandmothers and great grandmothers spent their days baking, making jams and growing and harvesting their own vegetables. Today, most of our food is bought in bulk from supermarkets that receive produce from farms often hundreds of kilometres away. Because of this, the food industry has adapted to the demands of modern lifestyles, by using food additives.

What is a food additive?

This is not a new concept. Saltpetre for example was used in the middle ages to preserve meat. Today there are various additives used by the food manufacturing industry. Preservatives for example keep foods safer and palatable for longer; antioxidants reduce the oxidative deterioration that leads to rancidity

and loss of flavour in foodstuffs. Emulsifiers and stabilizers facilitate the mixing together of ingredients that would normally not mix, such as fat and water.

So why should you care which additives are in your food?

Legislation requires all additives to be declared on the ingredient statement of every product. All additives used in food are approved as safe by national authorities. However, there is still a debate about potential harmful effects.

Concerns focus on a possible link between some additives and intolerance, allergic reactions and even ADD (attention deficit disorder). If you're concerned, that's a valid reason to limit or avoid them.

What is Woolworths doing regarding food additives?

As consumers become more health conscious and better informed, many prefer foods that contain as few additives as possible. Heeding the concerns of our customers we continually question the use of all additives, keeping food as simple as possible.

This started in 2001 with the removal of added MSG (monosodium glutamate, a flavour enhancer) and Tartrazine (a colorant) from all food products. And The Good Food Journey continues with the drive to remove all unnecessary additives.

A few examples are Hand-cooked chips, flavored with only salt and pepper; naturally colored character sweets; BST-hormone free Ayrshire dairy products; yoghurts with no added preservatives and fresh fruit juices made with out the addition of sulphur dioxide.

Foods you can trust

The drive to remove unnecessary additives wherever possible is another important milestone in the Woolworths Good Food Journey – an ongoing initiative to bring South African consumers the tastiest, safest and most natural food possible:

- ◆ All Ayrshire dairy products are free from the added growth hormone rBST.
- ◆ All yoghurts are free from galantine and added preservatives.
- ◆ All fresh produce, meat and chicken is traceable back to the farm of origin.
- ◆ Chickens are never fed animal by-products.
- ◆ An ever-increasing selection of free-range products and certified organic products is available.
- ◆ A large selection of eggs, including Free Range, Organic, and Omega-3 eggs is available.
- ◆ Our food products are constantly monitored and tested in our SANAS (South African National Accreditation System) laboratory.

My Notes ...

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Bibliography

■ Books:

Encyclopaedia Britannica – Suid Afrikaanse uitgawe

People Farming Workbook – Environmental and Development Agency Trust

■ World Wide Web:

www.fsis.usda.gov/Fact_Sheets/

www.foodservice.com/food_safety/fb29.cfm

www.arc.agric.za/institutes/anpi/main/divisions/matrix/downloads/matrix72.doc

www.doh.gov.za/departement/foodcontrol/gmo/risk.html

academic.sun.ac.za/foodsci/undergrad.htm

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED UNIT STANDARD:

Apply basic food safety practices

SAQA US ID	UNIT STANDARD TITLE		
116166	Apply basic food safety practices		
SGB NAME		REGISTERING PROVIDER	
SGB Primary Agriculture			
FIELD		SUBFIELD	
Field 01 - Agriculture and Nature Conservation		Primary Agriculture	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 1	1
REGISTRATION STATUS	REGISTRATION START DATE	REGISTRATION END DATE	SAQA DECISION NUMBER
Registered	2004-10-13	2007-10-13	SAQA 0156/04

PURPOSE OF THE UNIT STANDARD

A learner achieving this unit standard will be able to apply sound food safety principles by identifying risk factors in food contamination and applying preventative measures to ensure product safety.

Learners will gain an understanding of sustainable agricultural practices as applied in the animal-, plant and mixed farming sub fields. This unit standard focuses on the application of food safety principles in primary agriculture.

They will be able to participate in, undertake and plan farming practices with knowledge of their environment. This unit standard will instil a culture of maintenance and care for both the environment as well as towards farming infrastructure and operations.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

No learning is assumed to be in place.

UNIT STANDARD RANGE

Whilst range statements have been defined generically to include as wide a set of alternatives as possible, all range statements should be interpreted within the specific context of application.

Range statements are neither comprehensive nor necessarily appropriate to all contexts. Alternatives must however be comparable in scope and complexity. These are only as a general guide to scope and complexity of what is required.

UNIT STANDARD OUTCOME HEADER

N/A

Specific Outcomes and Assessment Criteria:

SPECIFIC OUTCOME 1

Apply good personal hygiene practices.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Effective personal hygiene practices are demonstrated.

ASSESSMENT CRITERION RANGE

Personal hygiene practices include but are not limited to correct way of washing hands; when to wash hands; sanitary requirements; drinking water suitable for human consumption.

ASSESSMENT CRITERION 2

Current health status is judged and a decision whether to report is made.

ASSESSMENT CRITERION RANGE

Health status may include but is not limited to open wounds, communicable diseases, diseases that need to be declared according to legislation.

SPECIFIC OUTCOME 2

Demonstrate an understanding of risk factors in food contamination.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Risk factors pertaining to food contamination are identified.

ASSESSMENT CRITERION RANGE

Risk factors include examples of physical, chemical and microbiological factors.

ASSESSMENT CRITERION 2

The importance of food safety practices with regards to export and marketing is explained.

SPECIFIC OUTCOME 3

Apply preventative measures against food contamination.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Preventative measures are identified and explained.

ASSESSMENT CRITERION RANGE

Preventative measures include but are not limited to empty chemical containers; waste disposal; clean working area; open wounds; hand washing.

ASSESSMENT CRITERION 2

The implications of non-application of preventative measures are explained.

SPECIFIC OUTCOME 4

Understand and adhere to warning signs regarding product safety (where applicable).

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Warning signs are interpreted correctly and respected.

ASSESSMENT CRITERION RANGE

Warning signs include but are not limited to toxins; danger signs; harvest intervals; with holding periods.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

The assessment of qualifying learners against this standard should meet the requirements of established assessment principles.

It will be necessary to develop assessment activities and tools, which are appropriate to the contexts in which the qualifying learners are working. These activities and tools may include an appropriate combination of self-assessment and peer assessment, formative and summative assessment, portfolios and observations etc.

The assessment should ensure that all the specific outcomes, critical cross-field outcomes and essential embedded knowledge are assessed.

The specific outcomes must be assessed through observation of performance. Supporting evidence should be used to prove competence of specific outcomes only when they are not clearly seen in the actual performance.

Essential embedded knowledge must be assessed in its own right, through oral or written evidence and cannot be assessed only by being observed.

The specific outcomes and essential embedded knowledge must be assessed in relation to each other. If a qualifying learner is able to explain the essential embedded knowledge but is unable to perform the specific outcomes, they should not be assessed as competent. Similarly, if a qualifying learner is able to perform the specific outcomes but is unable to explain or justify their performance in terms of the essential embedded knowledge, then they should not be assessed as competent.

Evidence of the specified critical cross-field outcomes should be found both in performance and in the essential embedded knowledge.

Performance of specific outcomes must actively affirm target groups of qualifying learners, not unfairly discriminate against them. Qualifying learners should be able to justify their performance in terms of these values.

- Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard or assessing this unit standard must be accredited as a provider with the relevant ETQA.
- Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

The qualifying learner is able to demonstrate a basic knowledge and understanding of:

- Effective personal hygiene practices.
- Risk factors related to food safety.
- Basic principles of food safety.
- Food borne illnesses.
- Hygiene principles.
- Impact of food safety in trade.
- The purpose for the study of Food Safety.
- Names and terms particular to food safety practices.
- Procedures in place to ensure food safety.
- All relevant legislation related to food manufacture and food safety.
- The relationship between food, food safety and food production.

UNIT STANDARD DEVELOPMENTAL OUTCOME

N/A

UNIT STANDARD LINKAGES

N/A

Critical Cross-field Outcomes (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Problem solving relates to specific outcomes:

- Apply good personal hygiene practices.
- Apply preventative measures against food contamination.

UNIT STANDARD CCFO WORKING

Team work: relates to specific outcomes:

- Demonstrate an understanding of risk factors in food contamination.
- Apply preventative measures against food contamination.
- Understand and adhere to warning signs regarding product safety (where applicable).

UNIT STANDARD CCFO ORGANIZING

Self-organisation and management relates to all specific outcomes.

UNIT STANDARD CCFO COLLECTING

Information evaluation relates to specific outcomes:

- Demonstrate an understanding of risk factors in food contamination.
- Understand and adhere to warning signs regarding product safety (where applicable).

UNIT STANDARD CCFO COMMUNICATING

Communication relates to specific outcome:

- Understand and adhere to warning signs regarding product safety (where applicable).

UNIT STANDARD CCFO SCIENCE

Science and Technology: relates to all specific outcomes.

UNIT STANDARD CCFO DEMONSTRATING

Inter-relatedness of systems relates to specific outcome:

- Demonstrate an understanding of risk factors in food contamination.

UNIT STANDARD CCFO CONTRIBUTING

Self development: relates to all specific outcomes.

UNIT STANDARD ASSESSOR CRITERIA

N/A

UNIT STANDARD NOTES

N/A

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