

Facilitating and Learning Materials

NATIONAL CERTIFICATE 2

TRADE AREA:

CASHEW VALUE CHAIN

UNIT OPTIONAL:

CASHEW KERNEL ROASTING



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What is a QR Code (Quick Response Code)?

A QR code (quick response code) is a type of **2D bar code** that is used to provide easy access to information through a **smartphone**.



Example of a QR code



How to scan the QR Code

- You open an app called *barcode reader* and point the phone camera at the QR code, the app works together with the phone's camera.
- The barcode scanner reads the code and takes you to either the webpage with the extra information or to a video with extra information for independent studies.

After certain information you will see a table with a QR code as well as the title of the document or video of the QR code and an icon, like the one below.

- You can either scan the QR code with your smartphone or
- Ctrl + Click on the heading which will take you to the same information.

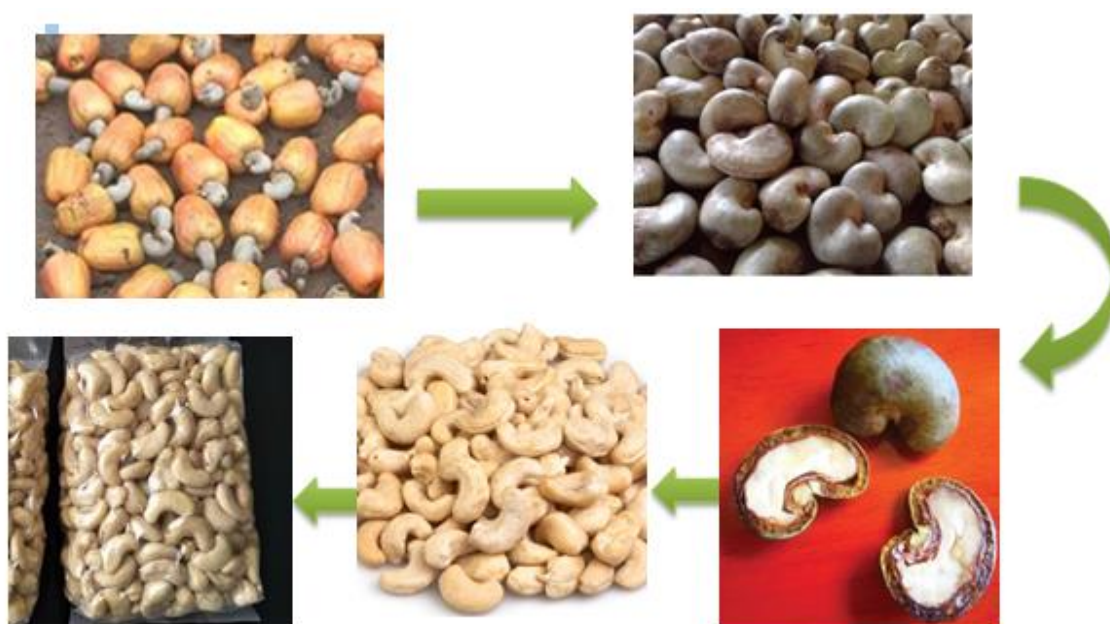
For more information on Occupational health and Safety scan the QR below or follow the URL hyperlink

	[QR Code] How to Use QR Codes	
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0. INTRODUCTION AND PRELIMINARY NOTES

Due to the nature of cashew kernels they cannot be eaten raw. As such they undergo processing for them to be edible. A preferred method of processing is roasting the cashew kernels.

Roasting the cashew kernels enhances the flavour and it gives the cashew nut taste that we all know and love.



There are 4 steps the process of roasting cashew kernels:

Dressing the cashew kernels	
Washing the cashew kernels	
Roasting the cashew kernels.	



Packaging and Labeling



In this unit the learner will demonstrate knowledge on and skills on dressing, washing, roasting, packing and labeling of cashew kernels.

LO 1: DEMONSTRATE KNOWLEDGE OF DRESSING CASHEW KERNELS

a) What Is Cashew Kernel Dressing

Cashew kernel dressing is the process of drying out and the cracking the hard outer shell to get the kernel which sits inside. The shells have to be soaked or steamed and dried so that the outer shell becomes brittle enough for you to crack it open with a mallet or manual hand held cashew shell cracker.

b) Importance of Dressing the Cashew Kernels

This is the first step the roasting process for cashew kernels. The kernel of a cashew sits inside an extremely hard shell which is also used for industrial raw material. The oil that is in between the shell and the cashew is toxic to humans and



can cause serious skin allergies if not handle with precaution.

c) Factors to Consider When Dressing Cashew Kernels

- Any and all equipment that is required to dress the cashews needs to be sanitized before use.
- Gloves should be wore so no oil touches them.
- If gloves are not available to you, you could roll the cashews in ash or sawdust (*this can be used for your hands as well*)
- When extracting the cashew kernel, care should be taken so that you do not it in half.



d) Tools and Equipment to Be Used When Dressing Cashew Kernels

<p>Wooden mallet</p>	
<ul style="list-style-type: none"> • A mallet is a kind of hammer often made of wood and rubber. It usually has a large head and can withstand a lot of impact. • Used for driving into objects that needs large amounts of force. 	
<p>Manual cashew shelling machine</p>	
<ul style="list-style-type: none"> • A free standing hand held metal device with a handle linked to a mechanism that crushes cashews. • Used for cracking open the shell of cashew kernels. 	

e) Procedure for Dressing Cashew Kernels

1. The apples of the cashew tree are collected and the cashews are broken off the bottom of the apple.
2. The cashew shells are then laid out to dry to get rid of moisture (*the kernels are laid out on a floor that has been disinfected or they could be laid out on mats.*)
3. The cashews are the boiled or soaked to weaken the hard shell around them.
4. After boiling or soaking the cashews are laid out to air dry for 24 hours
5. Once dried you can crack the shell open with either a wooden mallet or a hand help cashew cracking machine.



	https://youtu.be/WVC5aZRbepw	
For more information on dressing a cashew scan the QR below or follow the URL hyperlink		
	https://youtu.be/wJ3JAUfQYbQ	

Job task 1: Cashew Kernel Roasting



Situation: you work for a small agribusiness named “cashew kernel emporium” that produces cashews. You are going to sell you cashews to the public. Your job is to demonstrate to your employer the process of washing and dressing the cashew kernels.

Instructions:

1. You will need to collect a small bowl of cashews.
2. Dry the cashews in the sun.
3. Boil the cashews in water or soak the cashews in hot water.
4. Once you have boiled the cashew you will need to lay them out for 24 hours to dry.
5. Crack the cashew shells.
6. Store cracked cashew kernels for the next activity.
7. You have **2 days**.

Performance Criteria:

Use the checklist to follow the stated steps in cashew kernel dressing. Rate your own performance critically and honestly after you have completed each activity.



Excellent



Okay



Try Again

Daily PM Activities	Rate
1. Wearing the necessary protective equipment.	
2. Cashews are collected	
3. Cashews are boiled or soaked in hot water.	
4. Cashews were laid out to dry.	
5. The correct tools were obtained	
6. The shells were cracked and stored	
7. The time given was adhered to.	

SELF ASSESSMENT

Explain cashew kernel dressing.

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State the importance of dressing cashew kernels.

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State the factors to consider in dressing cashew kernels.

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List the tools and equipment dressing cashew kernels.

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Summarise the procedure in dressing.

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LO 2: DEMONSTRATE SKILLS FOR WASHING CASHEW KERNELS

a) What Is Cashew Kernel Washing

Cashew kernel washing is the process in which you clean the foreign matter, such as dirt, bacteria and oil from the cashew in water. This avoids the foreign matter from being present when you are roasting the cashew kernels.



b) The Importance of Cashew Kernel Washing


The outer shell of the cashew kernels contains oil that is toxic to humans and their skin, these oils needs to be washed away. Insects and pesticides may still be present on the cashew kernels and can cause them to go bad and they are very sensitive to dirt.

c) Factor to Consider When Washing Cashew Kernels

When washing cashew kernels the water to be used needs to be cold. Hot water makes it easier for bacteria to carry on growing. Also, leaving the kernels in water for too long would have the same effect and would also make the cashew kernels slimy and soft. Make sure that when you are washing kernels you are very cautious with the time you leave them in the water.

d) Tools and Equipment Used In Cashew Kernel Washing

Sieve	
<ul style="list-style-type: none"> • A Metal / mesh sieve is a circular metal object that has holes in the bottom. • Used to wash or drain objects. 	

Drum / bucket	
<ul style="list-style-type: none">• Round container with handles• Used for holding liquids of large quantities.	

e) Procedure For Cashew Kernel Washing

1. Obtain the cashew kernels that have previously dressed and sorted.
2. Fill a drum with enough water to cover the amount of cashews you are washing.
3. Layer the cashew kernels inside a sieve. Make sure that the water can easily get around all the cashew kernels.
4. Place the sieve in the drum /bucket. *(It that the sieve sits firmly in the drum / bucket without falling completely in the water.)*
5. Leave the cashew kernels in the water to soak for about 10 minute.
6. Drain the drum / bucket and leave the cashew kernels to absorb the excess water left once drained. *(This is so that there will be enough moisture in them for the roasting, so that they do not get scorched.)*
7. Store the cashew kernels until you are ready to roast them.



Job task 3: Cashew kernel roasting



Situation: you work at a small agribusiness named “cashew kernel emporium” that produces cashews. You are going to sell you cashews to the public. Your job is to demonstrate the skills you have obtained in this learning outcome to your employer.

Instructions:

1. Prepare the work place. Make sure all equipment I properly sanitized.
2. Obtain the cashew kernels you a previously dressed.
3. Wash the cashew kernels.
4. Drain the water properly from the drum / bucket.
5. Leave kernels to absorb excess water.
6. You have **1 hour**

Performance Criteria:

Use the checklist to follow the stated steps in washing cashew kernels. Rate your own performance critically and honestly after you have completed each activity.



Excellent



Okay



Try Again

Daily PM Activities	Rate
1. Wearing the necessary protective equipment.	
2. The workplace was hygienic and properly sanitized before the kernels were washed.	
3. You obtained all the cashew kernels.	
4. Followed the necessary steps to wash the cashew kernels.	
5. The cashew kernels were left to absorb water.	
6. The cashew kernels were stored for roasting.	
7. The time given was adhered to.	

SELF ASSESSMENT

Explain cashew kernel washing.

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State the importance of cashew kernel washing.

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List 3 factors to consider in cashew kernel washing.

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State the appropriate use of tools and equipment in cashew kernel washing.

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Outline the procedure for cashew kernel washing.

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LO 3: DEMONSTRATE SKILLS FOR ROASTING CASHEW KERNELS

Explain Cashew Oven Roasting Of Cashew Kernels

Roasting cashew kernels is the process in which you roast / cook the raw cashew kernels. Roasting the cashew kernels helps bring out the cashews naturally rich flavor and smell. At the end of the roasting process the cashew kernels should be crispy, their color should be golden brown and the smell should be strong.

a) Importance of Cashew Kernel Roasting

When cashew kernels are raw they have been found to have small traces of urushiol in them. Urushiol is an oily substance that is present in poison oak and the shell of cashew kernels. In most cases this oily substance can cause an allergic reaction, skin rashes and irritation of the eyes and skin. This oil is also not safe for humans to consume. In order to make cashews safe to eat you will have to roast the cashews.



b) The quality attributes of roasted kernels

Temperature of oven and amount of time the cashews are roasted for are the two most important parts of the quality check that would affect the cashew in a negative way. If the incorrect time and temperatures are used it will affect the cashews overall life span, there would be signs of discoloration and the taste would be highly affected. Poor time management and bad temperature control could change the chemical balance in the cashew.



c) Tools and Equipment Used For Roasting Cashew Kernels

Oven
<ul style="list-style-type: none">• An oven is a closed compartment that heats up to a temperature of your choice.• It is used for cooking or baking.
Oven pan
<ul style="list-style-type: none">• An oven pan is flat rectangular pan used in an oven.• Used to hold what it is that you are wanting to cook, bake or roast.
Cooking oil
<ul style="list-style-type: none">• Cooking oil is a liquid substance.• Used for cooking, frying, baking and roasting.
Wooden spoon
<ul style="list-style-type: none">• Wooden spoon is a wooden object that has a long handle and a rounded cupped out end.• It is used for stirring.

d) Procedure For Roasting Cashew Kernels

1. Preheat oven to 180°C.
2. Place cashew kernels in oven pan or tray.
3. Add oil to the cashew kernels (*the cashew kernels can be air roasted if you don't have cooking oil. You will have to coat the cashews in a layer of brine or salt water*) the less oil the better, you can add more as the cashews roast.
4. Spread the cashew kernels evenly on the bottom of the tray (*they should not overlap or be on top of one another*).
5. Place cashews in the oven on the middle rack (*after 5 min you will need to take them out and stir with your wooden spoon*).
6. Roast the cashews for a total of 10 – 15 minutes depending on how many cashew are roasting at one time (*you should smell a strong yet pleasing smell once they are ready*).
7. After time above remove the cashews from the oven and sprinkle the cashew kernels with salt (*about ½ a tsp.*).
8. Leave the cashews to cool for about 15 minutes.



Job Task 3: Cashew Kernel Roasting



Situation: You work at a small agribusiness that produces cashew named “cashew nuts emporium”. You are going to sell cashews to the public. Your job is to demonstrate to your employer the skills you have obtained in this learning outcome.

Instructions:

1. You need to obtain all the washed and dried cashew kernels.
2. You will need to prepare the oven for the roasting of the cashew kernels.
3. Roast the cashew kernels.
4. Salt the cashew kernels.
5. You have **2 Hours**.

Performance Criteria:

Use the checklist to follow the stated steps in roasting cashew nuts. Rate your own performance critically and honestly after you have completed each activity.



Excellent



Okay



Try Again

Daily PM Activities	Rate
1. Wearing the necessary protective equipment.	
2. Follow the necessary steps in order to prepare the oven or fire and cashews.	
3. Follow cooking instructions.	
4. The cashew kernels were properly salted.	
5. Cashews were stored for packaging.	
6. The time given was adhered to.	

SELF ASSESSMENT

Explain oven roasting of cashew kernel.

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Why is it important to roast cashew kernels?

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What are the quality attributes of roasted cashew kernel?

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Named the tools and equipment used in roasting of cashew kernel.

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Describe the procedure for roasting of cashew kernels.

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LO 4: DEMONSTRATE SKILL FOR PACKAGING AND LABELING ROASTED CASHEW KERNELS

a) Roasted Cashew Kernel Packaging

The first step to packaging would be to grade the cashew kernels. Cashew kernels are graded into a few different types namely: white pieces, scorched pieces, small pieces and half pieces. This is so that the cashew kernels can be priced accordingly.

Roasted cashew kernel packaging is last step to this process before distribution. The packaging is what you will do once the roasted kernel have been cooled and salted. The packaging will be small plastic bags with a label stuck on it. Your labeling will need to state the ingredients and what the allergens would be if someone were to purchase these cashew kernels.



b) Importance of Packaging the Roasted Kernels

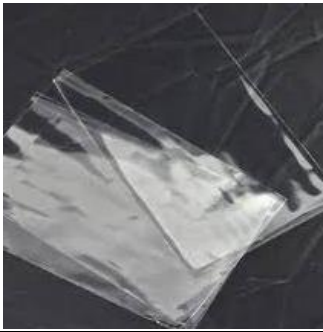


The cashew kernels have a moisture level of 3% and the packaging increases the moisture level to 5%, this makes it easier to transport without breaking as they are not as brittle they would be when you first cooled and packaged them. Packaging also stops the cashew kernels from getting contaminated by pests and disease that can be harmful to humans in the shops or in the transporting process.

If cashews are going to be stored for shipping, this will have to be done in an airtight bag or container. This is to avoid absorptions of any other food odors. Cashew kernels should be stored at room temperature.






When labeling the plastic or paper bags, keep in mind that you need to state the different kind of allergic reactions that can occur. You will also need to have a list of all the ingredients that have been used when making the roasted cashew kernels.



c) Materials Used For Roasted Cashew Kernel Packaging

<p>Plastic packets.</p>																																					
<p>Cardboard boxes.</p>																																					
<p>Crate.</p>																																					
<p>Label.</p>	<table border="1"> <thead> <tr> <th colspan="2">Nutrition Facts</th> </tr> <tr> <td colspan="2">Serving Size Custom Food 15g (15 g)</td> </tr> <tr> <td colspan="2">Servings per container 33</td> </tr> <tr> <th colspan="2">Amount Per Serving</th> </tr> <tr> <td>Calories 81</td> <td>Calories from Fat 63</td> </tr> <tr> <th colspan="2">% Daily Value*</th> </tr> </thead> <tbody> <tr> <td>Total Fat 7g</td> <td>11%</td> </tr> <tr> <td>Saturated Fat 3g</td> <td>15%</td> </tr> <tr> <td>Trans Fat 0g</td> <td></td> </tr> <tr> <td>Cholesterol</td> <td>0%</td> </tr> <tr> <td>Sodium 0mg</td> <td>2%</td> </tr> <tr> <td>Total Carbohydrate 5g</td> <td>1%</td> </tr> <tr> <td>Dietary Fiber 1g</td> <td>2%</td> </tr> <tr> <td>Sugars 2g</td> <td></td> </tr> <tr> <td>Potassium 85mg</td> <td>2%</td> </tr> <tr> <td>Vitamin A</td> <td>0% • Vitamin C</td> </tr> <tr> <td>Calcium</td> <td>1% • Iron</td> </tr> <tr> <td colspan="2">* 5% or less is a little, 15% or more is a lot.</td> </tr> </tbody> </table>	Nutrition Facts		Serving Size Custom Food 15g (15 g)		Servings per container 33		Amount Per Serving		Calories 81	Calories from Fat 63	% Daily Value*		Total Fat 7g	11%	Saturated Fat 3g	15%	Trans Fat 0g		Cholesterol	0%	Sodium 0mg	2%	Total Carbohydrate 5g	1%	Dietary Fiber 1g	2%	Sugars 2g		Potassium 85mg	2%	Vitamin A	0% • Vitamin C	Calcium	1% • Iron	* 5% or less is a little, 15% or more is a lot.	
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d) Tools and Equipment Used In Packaging Cashew Kernels

<p>Metal scoop</p>	
<ul style="list-style-type: none"> • A metal object used for scooping. 	
<p>Wooden scoop</p>	
<ul style="list-style-type: none"> • A wooden object used for scooping. 	
<p>Wooden bowl</p>	
<ul style="list-style-type: none"> • A round deep dish. • Used to hold liquid or food. 	
<p>Plastic bowl</p>	
<ul style="list-style-type: none"> • A round deep dish. • Used for liquid or food. 	

e) Procedure for Packaging Cashew Kernel

1. First the cashew kernels will need to be graded into different categories.



2. Once graded the cashew will need to be put into bowls.
3. From the bowls the cashew will be scooped with either a wooden or metal scoop.
4. With the scooped cashew in the scoop place them into a plastic or paper bag.
5. Close the plastic or paper bag.
6. Label the plastic or paper bags.
7. Store the bags in boxes. Layer the bags in the box no more than 2 layers high.
8. Close the box and store for transport. (*No more than 6 months.*)



Job task 5: CASHEW KERNEL ROASTING



Situation: you are the worker in a small agribusiness named “cashew kernel emporium” that produces cashews. You are going to sell you cashews to the public. Your job is to demonstrate to you employer the skills you have obtain in this learning outcome.

Instructions:

1. Grade the cashew kernels.
2. Put the graded cashew kernels in a bowl.
3. Scoop the cashew kernels into plastic or wooden packets.
4. Label the plastic or paper bags.
5. Place plastic packets into boxes.
6. You have **1 hour**.

Performance Criteria:

Use the checklist to follow the stated steps in cutting stock and dripping latex. Rate your own performance critically and honestly after you have completed each activity.



Excellent



Okay



Try Again

Daily PM Activities	Rate
1. Wearing the necessary protective equipment.	
2. You followed the steps involved in packaging cashew kernels.	
3. You scooped cashew kernels into plastic or paper bag.	
4. You label the plastic or paper bags with the labelling of your choice.	
5. You placed plastic bags in boxes.	
6. The time given was adhered to.	

SELF ASSESSMENT

Explain roasted cashew kernel packaging.

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State the importance of roasted cashew kernel packaging.

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List the materials used for roasted cashew kernel packaging.

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Name the tools and equipment used in packaging cashew kernel.

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Summarise the procedure for packaging of cashew kernels.

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REFLECTION ON YOUR LEARNING IN THIS UNIT



You will write **short reflections** of your learning and actions relating to the knowledge you have learnt and the practical skills you have developed.

Tips for writing your Reflection/Reflection Journal: You should write in your Reflection Journal within 24 hours of completing your practical session to record your experiences while they are fresh in your memory. Use the **'What, So What, Now What Model'** to guide your writing. Answer the following

questions:

What happened to...? (Describe what happened when did what you did)

So What did I learn from that? (Give at least 2 examples)

Now, What can I do better in future? (How can I improve next time?)
 What did you learn to do?

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What difficulties did you face in this unit?

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What can I do it better in future?

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How long did it take you each time you did it?

Attempt 1

Attempt 2

Attempt 3

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