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FOTO: EJ VAN GOOSWILLIGEN

2024 #11



# Making Sorghum Popcorn

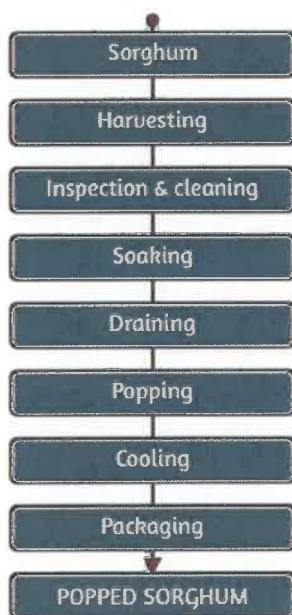
by Theresa Siebert



**S**orghum is a cereal grain that is rich in nutrients (including vitamin B1 (thiamin), vitamin B6, copper, iron, magnesium, phosphorus, potassium, selenium, and zinc), as well as being high in fibre, antioxidants, and protein, and is the 5<sup>th</sup> most-produced cereal crop in the world.

Popped sorghum is a crisp, white, expanded grain snack made from sorghum kernels in much the same way as popcorn. However, it is much smaller than popcorn, with a size of approximately 0.5cm in its expanded form, but this is understandable, as the kernels are so much smaller than maize/corn kernels.

Popped sorghum has a sweet taste with a typical sorghum aroma and the process from harvest to final product, can be outlined in a simple flow diagram:



## HARVESTING

The grain is harvested when fully mature and dry. It should be free from mould growth. The moisture content of the grains should be between 13 – 14 % to ensure good popping yields and volume.

## INSPECTION & CLEANING

The harvested sorghum kernels are cleaned using a winnowing basket to remove light grains, leaves and dust. Large foreign

matter such as stones and stalks are removed by hand. The clean sorghum kernels are inspected for any sign of mould. Mouldy grains are a potential source of aflatoxin poisoning. Spoilt grains should be removed as these impart an unpleasant flavour and colour to the end product.

## SOAKING

The grains are soaked for 3 minutes in water at room temperature to soften the bran. Standardisation of the soaking time is important to optimise the water uptake. Excessive water uptake results in delayed popping, and hard bran layers results in the product becoming charred during popping.

## DRAINING

The soaked grains are then drained using a perforated basket or strainer to remove excess moisture.

## POPPING

Popping is done in closed pans that are preheated to approximately 250 °C. This high temperature ensures the best results with the abrupt change in grain temperature.

The grains are loaded as soon as the required temperature is reached. Cooler temperatures will result in drying of the grains and reduced popping yields, while temperatures above 250 °C could result in charring and no popping.

## COOLING

The sorghum should be cooled rapidly after popping to prevent overcooking or excessive drying. Cooling is achieved by removing the grains from the pans and spreading it out in thin layers on a suitable clean and sterilized surface for at least 5 minutes or until they reach room temperature. Good ventilation in the drying area is important to remove hot, moisture-laden air.

Cooling is important to prevent moisture vapour condensing inside the packaging, which would destroy the desired texture and encourage mould growth.

## PACKAGING

Popped sorghum is a dry, hygroscopic product. Moisture absorption is minimised by packaging it in dry, moisture-proof containers such as heat-sealed polyethylene pouches. The storeroom should be clean, cool, dry, and well ventilated. When processed and packaged correctly, popped sorghum has a shelf life of approximately one month.



AGRICULTURAL RESEARCH COUNCIL  
NATURAL RESOURCES AND ENGINEERING  
Agricultural Engineering Campus

Enquiries: [siebertt@arc.agric.za](mailto:siebertt@arc.agric.za)



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