

# **Guideline on key requirements for government markets –Non perishable products–**



**agriculture,  
forestry & fisheries**

Department:  
Agriculture, Forestry and Fisheries  
**REPUBLIC OF SOUTH AFRICA**

**Guideline on key requirements for government markets  
–non perishable products–**

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Directorate Marketing

**DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES**

# Contents

1.	<b>INTRODUCTION</b>	1
2.	<b>PURPOSE</b>	1
3.	<b>LEGISLATION</b>	2
	<b>3.1 Acts</b>	2
	<b>3.2 Regulations</b>	2
4.	<b>SPECIFICATIONS FOR NON-PERISHABLE FOODS</b>	2
5.	<b>GRAINS</b>	3
	<b>5.1 Maize</b>	3
	5.1.1 Composition requirements	3
	5.1.2 Raw materials and ingredients	4
	5.1.3 Physical requirements	4
	5.1.4 Microbiological requirements	5
	5.1.5 Shelf life	5
	5.1.6 Processing and manufacturing	5
	<b>5.2 RICE</b>	5
	5.2.1 Scope	5
	5.2.2 Compulsory general requirements	6
	5.2.3 Composition requirements	6
	5.2.4 Organoleptic and sensory properties	6
	5.2.5 Microbiological requirements	6
	5.2.6 Shelf life	7
	5.2.7 Packaging and marking	7
6	<b>FLOUR</b>	7
6.2	<b>Compulsory general requirements</b>	9
	6.2.1 Composition requirements	9
7	<b>SUGAR</b>	11
7.1	<b>Requirements</b>	11
	7.1.1 Compulsory general requirements	12
	7.1.2 Physical requirements	12
	7.1.3 Microbial requirements	12
	7.1.4 Packing and marking	13

## DEFINITION OF TERMS

- Blemishes:** Surface spots, hail marks or other discolouration on the surface of the fruit that detrimentally affect the general appearance of any particular unit.
- Clean:** Without dirt, spray residue or other foreign matter.
- Decay:** A state of fungus development, decomposition or insect infestation that partly or entirely affects the quality, health or edibility of the fruit detrimentally.
- Diameter:** Refers to the greatest distance through the middle of the fruit, measured at a right angle to a line running from the stem end to the apex.
- Mature:** The fruit has reached a stage of development that will ensure ripening and a good eating quality.
- Overripe:** Refers to a soft, moist condition in which the fruit is not firm and can no longer withstand normal handling.

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## **1. INTRODUCTION**

Food safety has become an important aspect not only for large-scale farms but also for smallholder farmers. Food safety standard measures can improve the farm management practices of smallholders and can be a tool for smallholders to access government markets and be integrated into the formal supply chains. However, meeting food safety requirements set by the government markets<sup>1</sup> remains a challenge to the smallholders with a low level of literacy and financial means.

This guide focuses on government market requirements of food supplies by food producers. This is to ensure that food supplied at government institutions is of good quality, safe, wholesome, nutritious, appropriate and culturally acceptable for all clients within various government institutions. Furthermore, the food supplied should provide a normal diet that meets the nutritional, psychological and physiological needs of individuals within various government institutions.

The guide can be used by farmers who want to understand the standard requirements set by government institutions, by trainers who implement the requirements on smallholder farms and by any non technical person who wishes to understand what the government standard requirements regarding food supply are about. However, topics such as supply chain management requirements and preferential procurement regulations are not covered and are beyond the scope of this guide.

## **2. PURPOSE**

The purpose of these guidelines is to provide a clear guidance to producers, suppliers and other value-chain role players on the expected quality of all non- perishable products required by the various government institutions.

### 3. LEGISLATION

The products should comply with all the requirements as stipulated in the following Acts and regulations

#### 3.1 Acts

- **Agricultural Product Standards Act, 1990 (Act No. 119 of 1990)**

To provide for the control over the sale and export of certain agricultural products, control over the sale of certain imported agricultural products, control over related products and for matters connected with.

- **Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)**

To control sale, manufacture and importation of foodstuffs, cosmetics and disinfectants and to provide for incidental matters.

#### 3.2 Regulations

- **Government Notice No. R198 of 30 July 1999**

Regulation governing general hygiene requirements for food premises and the transport of food.

### 4. SPECIFICATIONS FOR NON-PERISHABLE FOODS

- This section provides specifications for non-perishables and depicts standards relating to:

The quality, appearance and delivery of the product;

Conditions under which the product is to be produced, packed, stored and transported;

Explicit descriptions regarding size, weight, colour and nutrient content;

Details of the inspection process;

Specific packing and labelling requirements.

- All requirements for purchase of commodity products are included in the specification.
- Non-perishable food items are those foodstuffs that can be stored without refrigeration and can stay on the storeroom shelf for an indefinite period of time. These include canned, dried and dehydrated foods.
- While non-perishable food items require no refrigeration to store, they must be stored properly in order to retain original quality.

## 5. GRAINS

Grains are the world's major food crops and there are numerous varieties. The most common grains are wheat, rice, corn, maize, samp and barley.

### 5.1 Maize

Maize varies in colour, with yellow and white being the most common. Appearance and starch content determine the classification of maize and influence its use. Hybrids have enabled farmers to combine qualities from various classes, increasing their potential as food ingredients. Maize meal should be fortified in accordance with the regulations relating to the fortification of certain foodstuffs, Regulation R 7634 of April 2003.

#### 5.1.1 Composition requirements

- The product should have the following nutrient composition per 100 g (unprepared)

Carbohydrate	- 75 g
Protein	- 8 g
Fat	- 1 g
Dietary fibre	- 3 g
Energy	- 1 400kJ
Moisture	- 13 g

- All vitamins and minerals should be in accordance with the fortification regulations.

### 5.1.2 Raw materials and ingredients

White maize should be suitable for human consumption (unless regulations specify yellow maize in times of shortage) and should be free from objectionable odours and flavours.

### 5.1.3 Physical requirements

- **Mass control**

The product should be available in 5 kg, 10 kg, 25 kg and 50 kg; the limits being as follows:

5 kg packs: 5 000g – 5 075 g

10 kg packs: 10 000 g -- 10 050 g

25 kg packs: 25 000 g – 25 100 g

50 kg packs: 50 000 g – 50 250 g

- **Organoleptic and sensory properties**

- Appearance: The product should have a white creamy appearance when cooked for three minutes.
- Flavour: The product should have a typical maize porridge taste and flavour when cooked for three minutes and should be free from objectionable, burnt or foreign tastes.
- Texture: The product should have a pearly texture when cooked.

### 5.1.4 Microbiological requirements

The product should have a microbiological specification consistent with that of soundly handled and processed maize.



### 5.1.5 Shelf life

The product should have a shelf life of at least six months when stored under clean and dry conditions at room temperature.

### 5.1.6 Processing and manufacturing

- The product should be processed according to the manufacturer's specifications using Good Manufacturing Practices;
- The maize meal should be produced from accepted milling standards.

### 5.1.7 Packaging and labelling

The product should be packed into preformed polyethylene bags, which should protect the content against moisture absorption, flavour loss, insect and animal infestations.

## 5.2 RICE

### 5.2.1 Scope

- **This specification covers various rice types**

The most common rice, long-grain white rice (polished rice), is hulled rice with its bran removed.

Parboiled rice is steam-treated, long-grain white rice.

Brown rice, on the other hand, is hulled (short, medium and long-grain) rice with its bran intact. As a result, it requires a longer cooking time than polished rice.

### 5.2.2 Compulsory general requirements

Parboiled long grain rice, containing more than 4% broken kernels.

### 5.2.3 Composition requirements

- Rice may be polished with or without talc;
- Talc may be present to a total of 0, 5% m/m.

- **Mass**

The rice should be available in 2 kg, 10 kg and 25 kg packs.

### 5.2.4 Organoleptic and sensory properties

- **Appearance:**

No glucose, colouring or any extraneous matter may be permitted in this product. The rice, after cooking, should be of its colour characteristic.

- **Texture:**

The rice is hard, almost brittle in the dry state. Once it is cooked it attains a fluffy, light and soft texture. The grains should be separate when served.

- **Flavour:**

The rice, in the dry and cooked state, should be free from unacceptable tastes and odours.

### 5.2.5 Microbiological requirements

The product should not contain any substance originating from micro-organisms in quantities which may represent a hazard to health.

### 5.2.6 Shelf life

The maximum shelf life of the product should be 24 months.

### 5.2.7 Packaging and marking

- The 2 kg quantity of rice should be packed into low-density polyethylene bags.

- The 10 kg and 25 kg quantities of rice should be packed into multiply kraft bags or some other suitable material.
- The bags should be sealed to protect the contents against microbial, insect and rodent infestation.
- The bags should be labelled in accordance with the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972).

The limits of error packaged should comply with the tolerances as shown in the table below.

**Table 10: Packaging for rice**

Package size	Limit of tolerance	
	-	+
2 kg	1,985 kg	2,030 kg
10 kg	9,050 kg	10,100 kg
25 kg	19,080 kg	20,160 kg

## 6 FLOUR

Flour is a fine powder made from cereals or other starchy food sources. It is most commonly made from wheat, but also maize (or corn), rye, barley and rice, among many other grasses and non grain plants.

### 6.1 Types of flour

- Whole-wheat flour, also called graham flour is flour milled from the whole grain; it contains all of the bran and germ from the wheat kernel. It is used for breads and some pastries. Because it contains the germ and bran, it retains vital nutrients. It needs to be used fresh, and stored properly as it gets rancid quickly because of the high fat content of the wheat germ.
- All-purpose flour: The flour is usually made out of hard and/or soft wheat. Typically this flour contains a protein level which is between 9,0% and 11,0%.

- Bread flour: Flour that typically has higher protein content than all-purpose flour and is capable of producing breads. The flour is usually made with a greater percentage of hard wheat, which has higher gluten content, giving the bread dough the elastic quality necessary for greater product volume. Protein levels vary from 10,5% to 12,0%. Common applications include breads and specialty baked goods.
- Cornflour/Cornstarch/Maize meal: A fine ground corn/maize product that is gluten free, and is mostly found bleached white, but also available with a yellowish tinge to it. It is mainly used as a thickening or binding agent, but it can also be used in a limited way for baking.

### 6.1.1 Whole-wheat flour

Wheat flour is the main ingredient in most types of breads and pastries. Wheat is widely used because it contains an important property, it has a complex protein called gluten. The gluten development is what gives wheat dough an elastic structure that allows it to be worked in a variety of ways, and which allows the retention of gas bubbles in an intact structure, resulting in a sponge-like texture to the final product. This is highly desired for breads, cakes and other baked products. Wheat flour should be fortified in accordance with the fortification regulations R 7634.

## 6.2 Compulsory general requirements

Wheaten meal and flour should comply with all the applicable requirements in terms of the South African Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) as amended, the Trade Metrology Act, 1973 (Act No. 77 of 1973) and the Marketing Act, 1968 (Act No. 59 of 1968) as amended.

### 6.2.1 Composition requirements

#### **Cake flour**

- 70% extraction;

- Moisture content should not exceed 14% (m/m);
- Ash content 0,55% (m/m);
- Should be fine enough to pass through 212 micron wire mesh sieve;
- Colour < 1,0 kJ units (Ken Jones colour classification).

### **White bread flour**

- 75% extraction through 212 micron sieves;
- Moisture content should not exceed 14% (m/m);
- Ash content of at least 0,58% (m/m) to a maximum of 0,65% (m/m) on a moisture-free basis;
- Should be fine enough to pass through a 212 micron sieve.

### **Brown bread meal**

- 87% extraction through a 212 micron sieve;
- Moisture content should not exceed 14% (m/m);
- When sieved through a 212 micron wire mesh sieve it should have a bran content of 12,5% (m/m);
- Brown bread meal with a bran content of not less than 10,0% (m/m) and not exceeding 15% (m/m), should be regarded to comply with the above-mentioned bran content requirements;
- Flour fraction should have an ash content of not less than 0, 58% (m/m) and not exceeding 0, 65% (m/m) on a moisture-free basis. The bran remaining above the 21 micron wire mesh sieve should have an ash content of no less than 3% (m/m) on a moisture-free basis.

### **Wheaten products should contain no additives except that:**

- Wheaten flour may, during milling, be treated with chlorine gas to a maximum of 2 500 mg/kg;
- Wheaten flour and wheaten meal may, during milling, be treated with chlorine dioxide to a maximum of 30 mg/kg;
- Cake flour may, during milling, be treated with benzoyl peroxide to a maximum of 50 mg/kg.

The additives mentioned in column i of the following table may, during the process of manufacture, be added to the flour from which wheaten products are manufactured in the maximum proportion indicated in column ii.

**Table 11: Additives for flour**

I	II
Ascorbic acid	200 mg/kg
Azadicarbonamide	45 mg/kg
Calcium acetate	3 000 mg/kg
Sodium hydrogen diacetate	2 000 mg/kg
Propionic acid or the calcium and sodium salts thereof	3 000 mg/kg

## 7 SUGAR

Sugar is sound, fair and of marketable quality, dry, in homogeneous granulated, free-flowing crystals. White sugar is a purified and crystallised sucrose and should have the following characteristics:

### 7.1 Requirements

- **Quality criteria:**

That part of powdered sugar, other than the anticipating agent or agents should conform to following specifications:

- Polarisation: not less than 99.7 S;
- Mean aperture: 550-650 microns;
- Invert sugar : not more than 0,04% m/m content;
- Conductivity ash : not more than 0,02% m/m;
- Loss on drying : not more than 0,1 % m/m (3 hours at 105 °C);
- Colour : not more than 85 iu;
- Moisture not more than 0, 05%.

- **Food additives and contaminants should be listed as below**

Food additives: Max level

Sulphur dioxide 20 mg/kg

Contaminants: Max level

(i) Arsenic (As) 1 mg/kg

(ii) Copper (Cu) 2 mg/kg

Lead (Pb) 2 mg/kg

### 7.1.1 Compulsory general requirements

White sugar should comply with all applicable requirements in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), The Trade Metrology Act, 1973 (Act No 77 of 1973), Reg. 2362 of 1977 of the Marketing Act, 1968 (Act No. 59 of 1968) as amended.

### 7.1.2 Physical requirements

- Portion control/mass white crystallised sugar should be available in the 10 g sachets as well as the 1 kg and 25 kg packages.

- Physical properties:

The sugar should be granulated cane sugar and should not form lumps;

The granules should be crystalline and uniform in size and free of foreign material;

At the time of packing, the moisture content should not exceed 0,05%;

Texture, colour and appearance. Refined white sugar should be white, dry, odourless, granulated sucrose readily soluble in cold water. It should have no taste other than sweetness.

### 7.1.3 Microbial requirements

Should not contain more than:

- 200 mesophilic bacteria/10 grammes
- 10 yeasts/10 grammes
- 10 moulds/10 grammes

### 7.1.4 Packing and marking

- Sugar sachets should be packed into opaque, bleached sulphate paper sachets with the following dimensions:

72 mm x 52 mm

Paper 31 g/m (opaque bleached sulphate paper)

LDPE 9 g/m (low-density polyethylene)

- The sachets should contain not less than 9,3 g white sugar and not more than 11,2 g of white sugar. The average of 10 sachets should not be less than 10 g. They should be sealed to be 100% effective.
- The 1 kg packages:
  - (a) The package should contain not less than 990 g and not more than 1 020 g fine granulated sugar.
  - (b) The sugar should be packed in 90 g/m<sup>3</sup> bleached kraft paper.
- The 25 kg packages:
  - (a) The package should contain not less than 25 990 g and not more than 25 100 g fine granulated sugar.
  - (b) The sugar should be packed into 25 kg poly bags.

The packages should be labelled in accordance with R908/1977 of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972).