

SAFE GROUND SPICES

How To Ensure That They Are Not Adulterated

SUMMARY

Spices are an important commodity in every Indian kitchen and no meal is complete without them. We probably buy a variety of ground spices every month and when packaged spices of our choice are not available, we end up buying loose spices. This increases our risk of consuming adulterated spices. Ground spices maybe adulterated with artificial colours, starch, chalk powder, etc. to increase their weight and enhance appearance. High value ground spices are frequently adulterated for economic gains. Adulteration is difficult to identify by visual and sensory inputs alone. Consumption of adulterated spices can cause various diseases like skin allergies, liver disorder etc. Due to high probability of adulteration in ground spices, FSSAI has banned the sale of ground spices in loose form. This document will increase consumers' awareness about safety of ground spices and serve as a guide to ensure that the ground spices we buy are not adulterated.

KEY TAKEAWAYS

As customers, we should keep in mind the following points:

- Avoid buying powdered spices sold loose.
- Buy spices in packaged condition from trusted brands only. Prefer purchasing AGMARK certified ground spices and look for AGMARK logo.
- Check the FSSAI licence number on the package label.
- Purchase whole spices from known/reputed stores/dealers and grind it at home after proper cleaning and washing. Chances of adulteration in whole spices are generally low as compared to ground spices as it can be visually identified.
- Do not buy spices with extra shine and bright colours as they are more likely to be adulterated.
- Never purchase ground spices having lump formation or unpleasant odour.
- Always read the manufacturing date, manufacturer details, best before date and other labelling declarations before buying spices.
- Never buy ground spices if the package is damaged.
- Look for FSSAI organic logo (Jaivik Bharat) on the pack while buying organic spices.



I. Introduction

India is known world over as “The Home of Spices.” It is a leader in the global spice market and caters to around 48 percent of the demand for spices across the world. Spices are consumed in various forms such as whole spices, ground spices, oleoresins, extracts etc. Spices play an important role in enhancing the flavour and taste of processed foods. They are also used in medicine because of their carminative stimulating and digestive properties.

II. Why ground spices are adulterated?

Spices are high in value, and are often sold in ground or powdered form, making them a prime target for adulteration. Ground spices are often substituted with fillers, less expensive/low quality spices, flour, corn starch, sawdust etc. Sometimes toxic and potentially carcinogenic dyes are also added to older stocks to enhance their appearance and hide the presence of fillers. For example, metanil yellow colour and lead chromate used in turmeric; Sudan 1, a red dye, in chilli powder which is a category 3 carcinogen.

III. Effects of adulterated spices on our health

Adulteration is primarily intended for economic gains. However, it may lead to serious health risks for the public. Consumption of adulterated spices for prolonged periods may result in stomach disorders, cancer, vomiting, diarrhoea, ulcers, liver disorders, skin disorders, neurotoxicity, etc.

Common adulteration in ground spices

Sr. No.	Spices	Adulteration
01	Black Pepper Powder	Addition of papaya seeds, starch and sawdust
02	Turmeric powder	Addition of lead chromate, metanil yellow, chalk powder or yellow soap stone powder and starch; substitution with other rhizomes e.g. arrow root etc.
03	Chillies powder	Addition of brick powder, salt powder or talc powder, artificial colours and dyes, colour, grit, sand, dirt, filth, saw dust, dried tomato skin
04	Asafoetida (Hing)	Addition of soap stone or other earthy material, starch, foreign resin
05	Coriander powder	Addition of animal dung powder, seed removed coriander
06	Oregano	Addition of other similar herbs and plant leaves

07	Curry Powder	Addition of starch powder and sawdust
08	Cinnamon	Substitution with Cassia
09	Cumin	Addition of grass seeds coloured with charcoal, immature fennel
10	Saffron	Addition of coloured dried tendrils of maize cob, Sandalwood dust, Tartrazine, Coconut threads
11	Cardamom	Substitution with de-oiled cardamom, artificial colourant (e.g. 'apple green', malachite green).

IV. How to detect adulteration in ground spices at home

Adulteration in ground spices can be checked at home by using simple test methods listed in Detect Adulteration with Rapid Test (DART) booklet prepared by FSSAI. This booklet is a compilation of common quick tests for detection of food adulterants at household level by citizens themselves. It can be downloaded free from the FSSAI website (<http://www.fssai.gov.in/home/Pink-Book-and-DART.html>)

V. How to report the sale of loose ground spices and adulteration?

- ☑ Consumers should inform the Food Safety Department about any illegal sale of loose ground spices in their areas. Anyone can report the problem relating to safety of food to the concerned State Food Safety Commissioners.
- ☑ Contact details of Food Safety Commissioners are available on FSSAI website www.fssai.gov.in.
- ☑ Consumers can also share their concern through Food Safety Connect Portal (<https://foodlicensing.fssai.gov.in/cmsweb/>) or may register their complaint on FSSAI app which is available at Google Play store.
- ☑ Consumers can also visit on (<http://foodsmart.fssai.gov.in/home.html>) to become aware of other food safety/labelling provisions.



Citizen Connect Logo



FSSAI Mobile App



Complaint mechanism

VI. Provisions under FOOD SAFETY AND STANDARDS ACT, 2006

Standards of 30 Spices and Condiments (whole and ground) are prescribed under sub regulation 2.9 “Salt, Spices, Condiments and related Products” of Food Safety & Standards (Food Products Standards and Food Additives), Regulations 2011. The Sub Regulation “2.3.14: Restrictions Relating to Conditions for Sale” of Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations, 2011, states that powdered spices and condiments can only be sold under “packed condition”. It prohibits the sale of powdered spices and condiments in loose form. This regulation also restricts the sale of compounded asafoetida exceeding one kilogram in weight except in a sealed container with proper labelling. These regulations are available on FSSAI website (www.fssai.gov.in). There are provisions of penalties for persons who manufacture for sale, or store, or sell, or distribute adulterated spices.

Related FSSAI Regulations and Standards and other documents:

1. Food Safety & Standards (Food Products Standards and Food Additives), Regulations 2011.
2. Food Safety and Standards (Prohibition and Restrictions on Sale) Regulation 2011.
3. Quick test for some adulterant in Food: Instruction manual part II (Methods for detection of adulterants), Food Safety and Standards Authority of India.

Other sources:

1. Gupta N and Panchal P.(2009),Extent of Awareness and Food Adulteration Detection in Selected Food Items Purchased by Home Makers; Pakistan Journal of Nutrition 8 (5): 660-667.
2. Sharma S, Goel N and Paliwal P (2017) Evaluation of Adulterants in Food by Different Physico-Chemical Method;International Journal for Scientific Research &Development, 4(11): 58-60.
3. Adulteration In Food Stuff And Its Harmful Effects (<http://www.chennaicorporation.gov.in/departments/health/adulteration.htm>)
4. Everstine K, Spink J and Kennedy S.(2013) Economically Motivated Adulteration (EMA) of Food: Common Characteristics of EMA Incidents; Journal of Food Protection, 76(4), 723-735.