

FSSAI Guidance note

On

Cinnamom (*Dalchini*) and Cassia (*Taj*)

FSSAI has received several representations that cheap Cassia is being sold as Cinnamon in the market or used as a cheap substitute for Cinnamon. Cinnamon and Cassia are closely related spices. The true cinnamon (*Cinnamomum verum* syn. *Cinnamomum zeylanicum*) is a native of Srilanka and South India. Srilanka is the major cinnamon producing country in the world and it controls 60% of the world cinnamon trade. India also produces cinnamon in small quantities.

Cassia is imported in the form of different species such as Chinese Cassia (*Cinnamomum cassia* syn *C. aromatic*) grown in China & Vietnam and Indonesian Cassia (*C. burmannii*) from Sumatra and Java region. Apart from being used as spice, the volatile oil and oleoresin from cassia are used extensively.

Although related, cinnamon and cassia are not obtained from the same plant. They should be treated as separate foods, both from a nutritional and a health standpoint. Scientifically, there is only one type of cinnamon, which is most commonly called "Ceylon cinnamon," and comes from the plant *Cinnamomum zeylanicum*. Cassia is often misrepresented as cinnamon and marketed to the consumers. Since the price of cassia is far below that of cinnamon, the traders sometimes mislead the consumers.

The Food Safety and Standards Authority of India (FSSAI) vide Food Safety and Standards (Food Product Standards and Food Additives) Regulations, 2011 has prescribed the standards for Cinnamon and Cassia. Cassia and Cinnamon vary in chemical composition. Cassia contains higher levels of coumarin as compared to cinnamon. Review of scientific evidence indicates that cassia is consumed / used in minor quantities as one of the ingredients in *curry powder* or used while preparing *curry masala* at home. In normal circumstances coumarin intake never reaches levels that can be

considered toxic to human health. Thus as far as a part of food is concerned, consumption of cassia is safe.

In order to check that cheap Cassia is not sold as Cinnamon in the market or used as an adulterant in Cinnamon, FSSAI has operationalised the amendment w.e.f 24.11.2016 to the standard of Cinnamon (whole and powder) with respect to inclusion of maximum permissible limit of coumarin content to be not more than 0.3% by weight. This inclusion of new standard will help in distinguishing between cinnamon and cassia because cassia contains coumarin content in the range of 0.8 to 10.63%. Cinnamon varieties have coumarin content around 0.2%.

The scientific panel on sampling and analysis has approved the validated method of Spice Board for detection of Coumarin content by HPLC method.

How to Differentiate between Cinnamon (Dalchini) and Cassia (Taj):



Cinnamon

Cinnamon



Cassia

Cassia

Cassia varieties have a stronger, more intense and often hotter flavour than cinnamon. Cinnamon and Cassia sticks, however, have obvious visual markers which make them easy to identify:

Parameter	Cinnamon	Cassia
Taste	Cinnamon is sweet and delicate.	Cassia is strong to peppery
Colour	Cinnamon is a light brown/ tan color.	Cassia is a reddish brown to dark brown.
Look	Cinnamon sticks curl from one side only and roll up like a newspaper. Real Cinnamon from Ceylon (<i>Cinnamomum zeylanicum</i>) is filled like a cigar	Cassia bark is thicker because its outer layer is stripped off. For that reason, Cassia sticks curl inward from both sides toward the centre as they dry. Cassia has a hollow tube
Feel	Cinnamon bark is smooth	The surface of Cassia is rough and uneven.
Grown in	India, Srilanka.	China, Vietnam, Indonesia.
Coumarin Content	low	High

FAQ s.

1. Why cinnamon is adulterated with cassia?

Cassia is usually cheaper in cost than cinnamon and hence is used for adulterating cinnamon. It is often mislabelled and sold as cinnamon.

2. How can consumers distinguish between cinnamon and cassia?

Consumers can easily distinguish between cinnamon and cassia. In the case of cassia a relatively thick layer of the bark has been rolled into a stick however, the cross-section of a Ceylon cinnamon stick looks more like a cigarette – several thin layers of bark have been rolled up

into a cinnamon stick resulting in a comparatively compact cross-section.

3. Is Cassia safe in food?

In normal circumstances coumarin intake never reaches levels that can be considered toxic to human health. Thus as far as a part of food is concerned, consumption of cassia is safe.

References:

1. Dr. R Dinesh, N.K. Leela , T. John Zachariah and M. Anandraj, Current Science, Vol. 108, No. 4, 25 February 2015
2. N.K. Leela, Cinnamon and Cassia, Chemistry of Spices, 2008