

ENSA Scientific Advisory Committee Position Paper

Soyfoods in East Asia – What’s really eaten?

Introduction

Soyfoods have been an important part of many East Asian diets for centuries and continue to be enjoyed to this day. But how much and what types of soyfoods are actually eaten in these countries? Interestingly, different countries, and even regions within the same country, can have a markedly different intake of soyfoods.

Measuring Soyfood Intake

Information about soy intake in East Asia comes from a variety of sources including national food surveys and studies specifically measuring soy intake.

Common Soyfoods in East Asian Diets

Unfermented Soyfoods	
Soydrink	Produced by soaking dry soybeans and grinding them with water. Nutritionally soydrinks are similar to semi-skimmed cow’s milk.
Tofu	Also known as soy bean curd, tofu is produced from curdling soydrink with a coagulant. Varieties include plain, smoked and silken.
Edamame	Edamame are young soybeans, harvested when the beans are still green and sweet tasting. Unlike the hard, dry mature soybeans used to make soydrink and tofu, edamame are softer and eaten as a snack or main vegetable dish.
Soynuts	Made from soaked, whole soybeans that are then baked or roasted until crisp and brown. They have a taste and texture similar to peanuts.

Fermented Soyfoods	
Miso	A thick soybean paste made by fermenting soybeans with salt, other cereals such as rice, and a mould culture. Miso is used for sauces and spreads, making soups, and pickling vegetables and meat.
Natto	Natto is made from fermented, cooked whole soybeans. Popular as a breakfast food and traditionally served as a topping for rice and with vegetables.
Tempeh	Made from soybeans that have been soaked overnight, boiled and then fermented, cake-like. Eaten as part of a meal and in soups.

Soyfood Intake across Selected East Asian Countries

Studies examining soyfood intake have found quite a range of intakes among different countries and even differences among regions within the same country. For example, across China soy consumption varies considerably. Low intakes have been reported in the South, whereas considerably more is consumed in the Northeast. Data from large studies in Shanghai have found that more soy is eaten here, compared to other parts of China. In this region high soy consumers eat around two to three servings a day. Soydrink and tofu are the most commonly consumed soyfoods.

Japan has a similar intake to Shanghai, but unlike China, soyfood intake in Japan is similar across the country. Those who consume the most soy, eat around two to three servings of traditional soyfoods a day.

Compared to Shanghai and Japan, Hong Kong and Singapore have a lower soyfood intake, whereas Indonesia is about the same, while Korean and Taiwanese intakes are between those of Shanghai and Singapore.

There is a mistaken impression that all soyfoods eaten in East Asia are fermented. In fact, among ethnic Chinese, fermented soyfoods are rarely consumed. The table below describes the main types of soyfoods consumed in several East Asian countries, along with the average amount of soy protein eaten daily. Unfermented soyfoods such as soydrink and tofu are highly popular in China and Hong Kong. In Japan, around half the soyfoods eaten are unfermented, whereas in Indonesia they make up just under two-thirds and in South Korea just under a third.

Types of Soyfoods and Amounts of Soy Protein Consumed

Country	Main Types of Soyfoods	Average Daily Intake of Soy Protein
China	Unfermented (tofu/ soydrink)	Varies among regions from as little as 1-2g to as much as 13g (Shanghai)
Japan	Mix of fermented (miso/natto) and Unfermented (tofu)	6 to 9g
Hong Kong	Unfermented (tofu/ soydrink)	4 to 8g
Indonesia	Mix of fermented (tempeh) and Unfermented (tofu)	Approx. 8g (data are limited)
South Korea	Mix of fermented (specific local products) and unfermented (tofu/ soybeans/ soydrink)	4 to 6g
Singapore	Unfermented (tofu/ specific local products/ soydrink)	5g
Taiwan	Unfermented (tofu)	7g

In conclusion...

- Traditionally soyfoods have been an important part of many East Asian diets
- Soy intake differs among countries, and in some cases differs among regions within the same country
- Japan, Indonesia and Shanghai have the highest intakes and Singapore and Hong Kong the lowest
- China, Hong Kong and Singapore mainly consume unfermented soyfoods, whereas a mixture of both unfermented and fermented are eaten in Japan, Indonesia and South Korea
- Both fermented and unfermented soyfoods continue to be a significant part of traditional East Asian diets and can be enjoyed as part of an overall healthy, balanced diet