![C:\Users\Heather Parks\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\6XI8GMZW\MCj03470610000[1].wmf]() **Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Blk:** \_\_\_\_\_\_ **Unit:** \_\_\_\_\_\_\_

 **TOFU AND SOY PRODUCT QUESTIONS**

1. What is tofu and how is it made?

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2. Tofu is considered to be very versatile because it has a \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ flavor. It is a completely natural substance; the only additive is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which acts as a solidifier.

3. Because tofu is so easily digested, it is an ideal source of protein for whom?

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4. In china, tofu has been a \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_for over \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ years.

5. The firm type of tofu or ‘\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_’ tofu is generally used when you want it to maintain the shape of the tofu in a recipe. Give two examples when you would want to use this firm form of tofu.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. What is ‘kinogoshi’ or silken tofu made with? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Where do you find tofu in the supermarket and how is it sold?

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7. If purchasing tofu from a water-bath, which is the traditional Oriental manner for purchasing tofu, what must you look for when selecting a piece?

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8. What happens to tofu after it has been frozen? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Tofu provides a rich source of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. How does tofu help reduces heart disease? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. How is soy milk made? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Why is soy milk a good alternative for people who are lactose intolerant?

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13. Name 2 ways that tempeh can be prepared.

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**![C:\Users\Heather Parks\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\6XI8GMZW\MCj03470610000[1].wmf]() TOFU AND SOY PRODUCTS**

**WHAT IS TOFU**

Tofu is a soybean curd. It is made from concentrated soy ‘milk’, water, and solidifier. Soybean curd is separated from the whey of soy milk. It is actually soy cheese, made in the same way regular cheese is made from cows’ milk- but lower in calories and higher in protein.

The delicate white curd is a completely natural substance. The only additive, calcium sulphate, is mined from natural deposits called gypsum. The solidifier has been used for centuries. Another solidifier, nigari, is made from salt water that has had most of the salt removed.

Because tofu is a derivative of soybeans, and most of the cured fibre of the bean has been strained out, it causes none of the digestive problems associated with dried beans and legumes. It is extremely easy to digest. It is so easily digested that it can be eaten straight from the package- hot or cold, cooked or uncooked. It is an ideal protein source for newborn babies, for people recovering from surgery or suffering from ulcers and other stomach problems, or for those suffering from lactose intolerance.

**HISTORY OF TOFU**

![C:\Users\Heather Parks\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\17H5EKRN\MPj04008010000[1].jpg]()Tofu has been a staple food item in China for over 2000 years, but the history of tofu must begin with the story of the soybean. The soybean plant is two feet tall, has a slightly woody steam and leaves that are in groups of three. The beans, which are the seeds of the soy plant, are born in the pods that grow near the stalks. Fresh soybeans are similar in colour and size to green peas whereas mature, dried soybeans are usually yellow, tan, or beige.

The origins of the soybean plant are obscured by numerous myths and legends. Reliable historical sources lead us to believe that soybeans were brought to China by the great Chinese explorer Choken, the first oriental to make contact with Greece, Rome, and India. The Chinese began to cultivate soybeans around 200 B.C. Some evidence even implies that cultivation could have started as far back as the eleventh century B.C. With the spread of Buddhism between the third and eighth centuries, soybeans were introduced to Japan from China.

By the second century B.C., soybeans were already being processes in China. Lord Lui An of Huai-Nan is believed to be the first person to have discovered the process of making tofu.

**HOW TO BUY TOFU**

Tofu is generally found in the diary section or produce section of the grocery store. It comes in bulk form (tofu in a water-bath), or in sealed packages. The sealed packages will generally keep the tofu fresh for as long as two months.

There are several different types of tofu- soft, medium and firm, as well as “Kinogoshi” or silken tofu that is made with nigari. All have generally the same protein and calcium content except for the nigari forms that has a lower calcium content. The two types of tofu most commonly used are “Chinese” or firm tofu and “Japanese” or soft tofu. Both varieties are generally interchangeable in recipes. The softer varieties have a higher water content and therefore are recommended in recipes in which the tofu is to be mashed, crumbled, or pureed.

Firm tofu can also be crumbled or mashed but it is generally used in recipes which call for it to maintain its shape (stir-fry, deep fried, cubes, etc.). Silken (Kinogoshi) tofu should only be used when specified or where preferred by an experienced cook. Silken tofu tends to be fairly sweet and it is best served in custards and other desserts.

**USES OF TOFU**

It is almost impossible to count the number of ways tofu can be used. By itself it is bland and mild, but by blending it with other foods it assumes the various flavours and consistencies of those foods.

The sponge-like nature of tofu is what gives it this amazing feature. It is also the reason tofu must be drained properly before using. When the water is removed the tofu acts like a sponge and absorbs the flavours of the other foods.

![C:\Users\Heather Parks\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\6XI8GMZW\MCj04062820000[1].wmf]()Uncooked tofu is very much like hard custard and if it is cut up into small pieces it can be added into salads or used in vegetable dip. When it is broiled, it takes on the texture of meat. It can be sautéed or cut into cubes and stir-fried; it can be deep fried, becoming puffy and crisp; or it can be made into a soft ice cream.

When it is mashed or pureed it becomes a creamy smooth natural thickener and can be used instead of cream, ricotta, or sour cream- with only a loss of calories. It can be scrambled like eggs, grilled like bacon, boiled, barbequed or marinated. Mixed in a blender with some fruit and honey, it would be hard to tell the difference between it and a milkshake. It can be a tiny part of a meal, like salad dressing, or it can be a dinner all by itself. The possibilities are unlimited.

**BUYING AND STORING TOFU**

Tofu is available in most supermarkets and health food stores. It can be found in pre-sealed plastic packages, or in a water-bath. If purchasing tofu in the traditional water-bath form, make sure the tofu cake is plump and white. The fatter and whiter it is, the sweeter the tofu will taste. Make sure the tofu cake you buy is completely under water and is not crumbling. The tofu should be kept refrigerated, as it is perishable. It is best stored in a bowl of water and the water should be changed every day or two to keep it at its freshest.

Both the firm and the silken soft style tofus are available in pre-sealed packages. This form of packaging will keep the tofu fresh for up to six weeks. Tofu purchased in plastic packages generally has an expiration date on it. Check this date as you would check the date on any other food product.

Freezing tofu is also an ideal way to store it. It can be frozen right in its original package. You will find though, that after tofu has been frozen for over a week, its texture becomes firmer and more sponge ![C:\Users\Heather Parks\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\6XI8GMZW\MCj03569110000[1].wmf]()like. In this extra firm and pleasantly chewy state it can be used as an ideal substitute for pasta. Tofu also becomes a creamy beige colour rather than the snowy white colour of fresh tofu. The frozen tofu also tends to absorb marinades and sauces extremely well, so you may want to freeze it even if you are going to use it right away. The frozen tofu must be thawed before using and like all tofu it should be drained thoroughly. Be careful with recipes, as fresh and frozen tofu is not always interchangeable. Recipes will generally specify which type to use.

**BENEFITS OF TOFU**

Tofu is rich in both high quality protein and B-vitamins. Tofu is, therefore, an excellent substitute for meat in many vegetarian recipes. When making tofu, the soy proteins are precipitated with calcium, providing tofu with a ready source of calcium. Calcium in tofu contributes to the prevention of osteoporosis.

An additional benefit of tofu is that it is extremely easy to digest. This is because the soybean’s fiber is removed during the manufacturing process.

As most other soybean foods, tofu reduces heart disease by lowering the level of the "bad" LDL cholesterol, and as the result maintaining the level of "good" HDL cholesterol.

Tofu is rich in isoflavones. When making tofu, the soy isoflavones, genistein and daidzein, remain bound to the soy protein. Firm tofu contains about 35 mg isoflavones per 100g. Isoflavones will reduce the risk of osteoporosis; a disease associated with reduced bone density and increased bone fractures. Isoflavones will also lower rates of breast cancer and prostate cancer, and reduce menopausal symptoms including mood swings and hot flushes.

**SOY MILK**

![C:\Users\Heather Parks\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\6XI8GMZW\MPj03143150000[1].jpg]()Soy milk is made by soaking soybeans, grinding them with water. The fluid which results after straining is called soy milk. You can make soy milk at home with basic kitchen tools or with a soy milk machine. Soy milk is most commonly found in aseptic cartons. Most of the soy milk available in the market is flavoured and fortified with extra calcium or vitamins. The most popular flavours are vanilla and chocolate. Some producers add thickeners to their soy milk to give it a mouth feel of cow's milk. Traditionally, soy milk has a beany taste which is well accepted by the Chinese, but less by the Western palate. By using correct processing techniques, this beany taste can be reduced or eliminated. Recently, with the recognition of its health benefits and with its improved flavor and texture, soy milk has now a high and rising acceptance. Sometimes, use is made of protein isolates from soy bean which are mixed with water, oils, sugars, stabilizers to give it a milky appearance. This type of product is not as wholesome as real soy milk.

Plain soy milk is very nutritive: it's an excellent source of high quality proteins, isoflavones and B-vitamins. Soy milk is free of the milk sugar (lactose) and is a good choice for people who are lactose intolerant. Also, it is a good alternative to those who are allergic the proteins of cow's milk.

**![C:\Users\Heather Parks\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DHET8EIX\MCj03637560000[1].wmf]()SOY YOGURT**

Soy yogurt is made by fermenting soymilk with friendly bacteria, mainly Lactobacillus bulgaricus and Streptococcus thermophilus. The process is similar to the production of yogurt from cow milk. Soy milk does not contain lactose but other sugars such as stachyose and raffinose.

**TEMPEH**

Tempeh is cake of soybeans, which have been de-hulled, cooked, mixed with a tempeh starter and incubated for a day or two. In Indonesia, tempeh is traditionally made from soy beans only, but in Western countries you can find tempeh made from other ingredients, such as vegetables, grains or other beans.

Since tempeh is made from whole soybeans, it is a fiber-rich food. Tempeh is a rich source of proteins, minerals, soy isoflavones and saponins. It is also a generous source of nutrients such as calcium, B- vitamins and iron. In addition, tempeh is a good source of monounsaturated fats and contains no cholesterol. The natural tempeh fermentation process also makes the soya more digestible.

Tempeh has a tender chewy consistency that makes it an excellent addition to a variety of foods. The easiest way to prepare tempeh is to bake marinated slices of tempeh in a pan with oil, until they becomes crisp and golden-brown. Tempeh is also delicious on the grill: first steam the tempeh cubes and marinate them in a barbecue sauce and then grill them until browned. You can add chunks of tempeh to spaghetti sauce or chili mix or to your favourite soups and casseroles.

References: www.soya.be; www.whfoods.com; Whitney E. & Rolfes S. (2005).Understanding Nutrition 10th Ed.