Hubei flavor batter lotus root stuffed with meat innovation and nutrition

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Abstract: Bat lotus root stuffed with meat, also known as lotus, is a kind of fried food wrapped with batter. It is crispy and golden outside, tender and juicy. It is popular among people. The innovation of dishes with meat has regularity and rationality: ingenious conception, high conception and complete nutrition.

1. Diet culture of Hubei Province.
Bat lotus root stuffed with meat is a famous special dish in southern China, belonging to the Chu cuisine series. Batter lotus root stuffed with meat originated in the middle of Ming Dynasty. It is said that in the Ming Dynasty, a councillor in Xiaogan City raised a stupid son. He did stupid things and said stupid things all day long, and could not figure out how to do anything. When the councillor heard that lotus root can make him happy, he told the chef to give his son more lotus root vegetables. However, his son liked meat and was disgusted with vegetables. He was not willing to taste any lotus root vegetables. So, the chef put some minced meat in lotus root slices, wrapped in egg paste, and fried it golden in the oil pan, which made the stupid boy never get tired of eating. Later, he was so smart that he became a scholar. In this way, bat lotus root stuffed with meat spread to many other places.

2. The characteristics of the choice of food materials were as follows.
2.1. Lotus root has pores, seven holes, nine holes or eleven holes, so that people can eat lotus root to open up the mind. People who like to eat lotus root "have more heart than stem", and are smart. Lotus root is the homonym of "couple", that is, in pairs, and the clip is a kind of saying of "having children", which means very auspicious. Bat lotus root stuffed with meat stands for good things in pairs and beauty. At the same time, because there are holes in the circle of battery lotus root stuffed with meat, which is similar to the shape of coins in ancient times, it is also jokingly called "silver coin". The color of cooked bat lotus root stuffed with meat is golden yellow, oily but not greasy, and lotus root fragrance is very rich. When the festival comes, every family will cook a basket of bat lotus root stuffed with meat. In addition to enjoying it at home, people will also present it to relatives and friends.

2.2. According to "Jiangling County annals", there are white lotus root and red lotus root, which are wild lotus roots produced by lake pond. While white lotus root is big and flat, and sweet when eaten raw, safflower and wild lotus root are better in steaming. More than 10 products such as Caidian lotus root, Hanchuan lotus root, Mianyang lotus root, Lulin lake lotus root belt, Honghu lotus seed, Honghu
lotus root, Honghu lotus root belt, Bahe lotus root, sesame lake lotus root, etc. are recognized as national geographical indication protection products.

2.2.1. Origin of Hubei lotus root: Caidian, as the "hometown of lotus root in China", is also recognized as a regional public brand by the State Administration for Industry and Commerce. The famous lotus root varieties such as "Hubei June news", "Jinlian lotus root", "Wuhan Damao Festival" are from Caidian District, Wuhan city. Caidian lotus root is long and fat in appearance, fine in quality, white and tender, and long in silk. It has sweet taste, crisp and few dregs, rich in nutrition. It is suitable for medicine and food supplement. The wild lotus root produced in Caidian District generally has 9-13 holes, which are more than other lotus roots.

2.2.2. Honghu lotus root: Honghu lotus root is long in shape, thick in single lotus root, thick in internode, small in middle vent, rich in starch, with fragrant, crisp, clear taste characteristics, and can be eaten raw or cooked. The soup is easy to be rotten, the meat is fat, the fried food is sweet and crisp, and the simmered soup is easy to be powdered. Its quality is excellent, the yield is high and the commodity rate is high.

3. Process and principle of paster lotus root stuffed with meat.

3.1. Paste hanging process.
Batter lotus root stuffed with meat is fried with crispy paste. It is mainly composed of starch 30g, flour 45g, egg white 12g, water 52.5g, uncolored oil 9g, and baking powder 1.5g.

Steps: 1. Add flour and starch and mix well with water. 2. Add egg white and mix well. 3. Add baking powder and mix well. 4. After the powder rises, mix the salad oil into the paste evenly and place it for 30 minutes to hang the paste and fry it.

3.2. Paste hanging principle.
A layer of paste is evenly wrapped on the surface of the raw material, and the surface layer is directly heated and denatured by high temperature oil. The amino acids and reducing sugar in the paste interact to form attractive aroma and color.\[1\]

3.3. Paste hanging function
The raw materials are coated with a layer of sticky paste for protection before cooking. After heated, the paste will immediately condense into a thin film as a protective layer, so that the raw materials do not directly contact with high-temperature oil. On the one hand, the moisture and nutrients in the raw materials will not overflow in large amount, so as to reduce the chance of nutrition contacting with air, thus reducing the oxidation loss of nutrients. On the other hand, the raw materials are protected by paste and become indirect heat transfer, and the protein will not be destroyed by high temperature decomposition. Therefore, the dishes cooked in this way are fresh and tender, with more nutrients preserved and higher digestion and absorption rate. The paste itself is composed of starch and egg, and also has rich nutritional components, thus increasing the nutritional value of dishes.\[2\]

4. Innovation and nutrition of batter lotus root stuffed with meat.
When cooking food, people are used to frying, deep-frying, stir-frying and charcoal barbecue at high temperature for a long time, thinking that the color, smell and taste of the food cooked in this way will be better.

4.1. batter lotus root stuffed with pork.
Ingredients: Pork, onion, ginger, cooking wine, soy sauce, five spices, oyster sauce, white pepper, and salt. Cut the pork into small pieces, add green onion, ginger, cooking wine, soy sauce, five spices,
oyster sauce, white pepper, and salt. Stir evenly to make the stuffing, and then make it into batter lotus root stuffed with meat.

Nutritional value: It is rich in protein, iron, fat, calcium, phosphorus, hemoglobin, vitamin B1, etc., and can improve iron deficiency anemia. The protein content of pork is the lowest and the fat content is the highest. Lean pork contains high protein, up to 29 grams of protein and 6 grams of fat per 100 grams. Pork is also rich in vitamin B1, which can make the body feel stronger. Pork also provides essential fatty acids. It can provide heme (organic iron) and cysteine which can promote iron absorption, and can improve iron deficiency anemia. Pork chops nourish yin, pork tripe tonify deficiency, spleen and stomach.

4.2. Douchi dace pork stuffing heart and nutrition.
Ingredients: pork, Douchi dace powder, onion, ginger, cooking wine, soy sauce, five spices, oyster sauce, white pepper, salt. The minced pork is mixed with mud carp in Douchi to make stuffing, which is made into bat lotus root stuffed with meat.

Nutritional value: It is rich in protein, fat, amino acids and carbohydrates. It can not only enhance the immunity of human body, but also prevent cardiovascular and cerebrovascular diseases. Among them, Douchi contains a large amount of volatile oil, which can not only promote the secretion of digestive juice in the intestinal tract, but also promote appetite. It can also play the purpose of sweating, relieving the surface, penetrating the rash and disinfecting.

4.3. Sesame sweet stuffing and nutrition.
Ingredients: sweet bean paste, raw sesame, sesame oil. Stir fry raw sesame seeds over low heat. Stir in sweet bean paste with sesame oil while hot. The filling is made into a batch lotus root stuffed with meat.

Nutritional value: red bean contains protein, calcium, potassium, iron, vitamin B1, vitamin E, saponin, nicotinic acid, dietary fiber, carotene, phytosteroidal sugar and triterpenoid saponin. Red beans are rich in iron. Eating more red beans, has the effect of tonifying blood and promoting blood circulation, but also can supplement menstrual nutrition and relieve menstrual pain. Red beans are rich in B vitamins and saponins, which can not only reduce fat accumulation, but also eliminate excess water in the body. It can improve the obesity of face edema or lower body edema. Red bean is rich in dietary fiber, which is helpful for intestinal peristalsis, and can remove intestinal waste and prevent constipation. Red beans are rich in cellulose, glucosides and triterpenoid saponins. Red beans can purify blood and eliminate fatigue, which is helpful to patients with heart disease and kidney disease.

4.4. Sweet scented osmanthus Jam.
Ingredients: strawberry jam, osmanthus jam, sugar, a little salt, chicken essence, and a small amount of cold boiled water. All the ingredients are mixed into the filling, spread on the lotus root slices, and made into a bat lotus root stuffed with meat.

Nutritional value: strawberry jam is rich in anthocyanins and catechin. These substances are natural anticancer ingredients. They can not only improve the activity of human tissue cells, and prevent cell canceration, but also inhibit the regeneration and reproduction of cancer cells in the body. Strawberry jam can be effectively reduced at high incidence rate of colon cancer, breast cancer and gastric cancer. Strawberry jam is rich in antioxidants. It can clear cholesterol in human blood vessels and reduce the content of low-density lipoprotein in blood. It can not only soften blood vessels, prevent arteriosclerosis, but also reduce the incidence of hypertension and hyperlipidemia. Strawberry jam is rich in vitamin C and some natural polysaccharides and pectin components. The pectin it contains can promote the metabolism and excretion of endotoxin in human body. The vitamin C contained in strawberry jam can eliminate the inflammation on the surface of skin and promote the regeneration and metabolism of skin cells.
4.5. **Shrimp with lotus root.**
Ingredients: shrimp, salt, cooking wine, pepper, monosodium glutamate, and a small amount of water. The shrimp tail is left, the shrimp meat is pounded into mud, the seasoning is mixed to make stuffing, and the shrimp tail is sandwiched into it as decoration to make a bat lotus root stuffed with meat.

Nutritional value: shrimp is rich in nutrition, and its meat is soft and easy to digest. It is food for people who are weak and need to be nursed after illness. Shrimp is rich in magnesium, where magnesium has an important regulatory effect on heart activity, can protect the cardiovascular system, reduce the blood cholesterol content, prevent arteriosclerosis, expand the coronary artery, and is conducive to the prevention of hypertension and myocardial infarction.

4.6. **Mushroom with shrimp.**
Ingredients: shrimp, mushroom granules, salt, cooking wine, pepper, monosodium glutamate, and a small amount of water. In this paper, the tail of the shrimps is left, the shrimp meat is pounded into mud, the appropriate size of mushroom particles are added, and then seasoning is added to mix seasoning to make stuffing, and the shrimp tail is sandwiched into it as decoration to make a battery lotus root stuffed with meat.

Nutritional value: the fat content of Lentinus edodes is about 3%, the content of unsaturated fatty acids in the fat is rich, and the content of linoleic acid and oleic acid is more than 90%. It is not only rich in serum lipids and cholesterol, but also helps to reduce blood lipids and cholesterol. The content of minerals in Lentinus edodes is higher, among which calcium is 124 mg, phosphorus is 415 mg and iron is 26 mg. It can be used as a good source of calcium, iron and phosphorus supplement. Lentinus edodes also contain ergosterol and mycosterol, where the former can be converted into vitamin D in the sun, and so Lentinus edodes is one of the important food to resist rickets.

4.7. **Water chestnut with Pork.**
Ingredients: Pork, water chestnut, onion, ginger, cooking wine, soy sauce, five spices, oyster sauce, and white pepper, salt. Mince the pork, add the horseshoe, stir well, then add green onion, ginger, cooking wine, soy sauce, five spices, oyster sauce, and white pepper, salt. The stuffing was prepared by stirring the stuffing with fettatus.

Nutritional value: horseshoe is rich in starch, protein, crude fat, calcium, phosphorus, iron, vitamin A, B1, B2, C, etc. It also contains the active ingredient of anticancer and lowering blood pressure. It has the effect of clearing away heat and dampness and detoxifying. It also contains crude protein, crude fat, starch, can promote the peristalsis of the large intestine, play the role of moistening the intestines and defecation, preventing and alleviating constipation; it also has a certain hypoglycemic effect, which is suitable for patients with diabetes to adjust blood sugar.

5. **Summary**
In the innovation of Hubei flavor batter lotus root stuff with meat, the innovation of stuffing, the innovation of batter paste and the combination of nutrition can promote the research and development of bat lotus root stuff with meat products, which has a certain reference significance for food industrialization of battery lotus root stuff with meat products.

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