

Procedure:

1. Toast the peanut in a medium pan for 15-20 minutes or wait until it become light brown in color.
2. In a separate pan, melt sugar over medium heat.
3. After the sugar has completely dissolved, quickly mix the butter, baking soda and porphyra. Stir until the butter melts then add the peanut.
4. Remove sauce pan from the stove and pour the mixture in serving plate. Spread the mixture evenly with spatula using rolling pin.
5. Allow the mixture to cool. Cut into a bar shape (1"x 3" in size).
6. Wrap in a cellophane.
7. Pack and label. Store in a cool and dry place.

BAKED SHRIMP

(SEAWEED "GAMET" ENRICHED)

Ingredients:

- 250 g. dried alamang
- 2 tbsp. brown sugar
- 1 pc. egg white
- 2 g. dried porphyra
- sesame seeds for coating

Procedure:

1. Trim the head and tail of the "alamang"
2. In a bowl, mix egg white, brown sugar and dried porphyra.
3. Coat the "alamang" with the mixture.
4. In a baking pan, spread the coated "alamang" and sprinkle with sesame seeds.
5. Bake for one hour at 160 °C or until it becomes crunchy.
6. Cool, pack, and label.
7. Keep in a cool and dry place.

HEALTH BENEFITS OF SEAWEEDS

1. It keeps thyroid gland healthy.
2. It keeps heart healthy.
3. It relaxes nerves and muscles.
4. It keeps bones and teeth strong and healthy.
5. It helps prevent anemia.
6. It helps you to sleep better.
7. It protects human against cancer.
8. It prevents inflammation.
9. It helps maintain blood sugar levels.
10. It promotes weight loss, cellulite control and detoxification.
11. It is 10 to 20 times higher in vitamins, minerals and amino acids compared to plants that grow on land.

References:

- www.oceanvegetables.com.
- Encarnacion, Angel B., Joyce G. Cabading, Marivic G. Uanto and Jovita P. Ayson. *Antioxidative Property and Phytochemical Screening of Edible Seaweeds Endemic in the Coast of Cagayan, Philippines*. 6th International Conference on Kuroshio Science, Dec. 2-4, 2012. Bicol University, Tabaco, Albay, Philippines.



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SEAWEEDS

Recipes



DA-BFAR RO2

SEAWEEDS

Recent health issues prompted researchers to utilize extracts from natural foods including numerous species of seaweeds. The antioxidative activity of edible seaweeds such as *Gracillaria* sp and *Porphyra* sp. endemic in the coast of Cagayan, Philippines was evaluated (Encarnacion et. al 2012). The presence of the different phytochemicals from these seaweed species were also determined. Results of the study show that most of the crude water extract from these endemic seaweeds have high 2, 2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity and contains secondary metabolites such as alkaloids, glycosides, tannins, saponins and flavanoids (Encarnacion et. al, 2012). The current research may increase the use of macroalgae as natural pharmaceuticals and should be promoted as health food for human consumption thus the promotion of various value-added products from seaweeds.

PREPARATION OF "GURAMAN" PUREE

Ingredients:

100 g. dried "guraman"
4 cups water
5 tbsp. calamansi juice/vinegar

Procedure:

Refresh the dried "guraman" for one hour and wash. Add calamansi juice/vinegar and cook for 15 minutes in a covered pan. Blend to produce seaweed puree. This will be needed in

the preparation of value added products from seaweeds.

GURAMAN CHIPS

Ingredients:

½ cup "guraman" puree
1 ½ cup flour
1 tsp. white/black pepper
1 tsp. baking powder
1 tsp. onion powder
1 tsp. garlic powder
1 tsp. iodized salt

Procedure:

1. Combine all dry ingredients and mix well.
2. Add "guraman" puree and mix thoroughly to produce dough.
3. Knead/run through a noodle machine.
4. Cut into desired size/shape and deep fry.
5. Cool, pack and label.
6. Keep in a cool dry place.

GURAMAN NOODLES

Ingredients:

1 cup "guraman" puree
3 cups all-purpose flour
1 tsp. iodized salt

Procedure:

1. Combine all dry ingredients and add "guraman" puree and mix thoroughly.
3. Knead/run through a noodle machine.
4. Cut into noodles strand, place in a molder and deep fry.
5. Cool, pack and label.
6. Keep in a cool dry place.

PICKLED "GURAMAN"

Ingredients:

100 g. dried "guraman"
3 cups vinegar
3 cups brown sugar
¼ kg. sliced carrots
1/8 kg. sliced onions
1/8 kg. sliced garlic
1/8 kg. sliced ginger
1/8 kg. raisin
1 cup pineapple tidbits

Procedure:

1. Refresh and wash "guraman" thoroughly and boil in a covered pan for 5 minutes.
2. In a separate casserole, combine sugar and vinegar. Boil also for 15 to 20 minutes to produce pickling syrup.
3. While boiling, blanch the entire remaining ingredients for a minute and set aside.
4. Continue boiling the pickling solution for 15 more minutes or until it becomes more sticky.
5. Cool the syrup for 30 minutes. Pack "guraman" and arrange the ingredients in a sterilized bottle and label. (For better result, product should be consumed after a week.)
6. Keep in a cool dry place.

*Refresh "guraman" means soaking the dried "guraman" in tap water for an hour to absorb water.

PEANUT BARS (SEAWEED "GAMET" ENRICHED)

Ingredients:

1 cup sugar
1 cup peanut
10 g. porphyra
1 tsp. baking soda
½ cup butter

Cooking Procedure:
** Deep fry until light brown.

FISH TOCINO

Raw Material:
3 kg. fresh fish



Ingredients:
10 tbsp. brown sugar
½ cup crushed garlic 1 tbsp. black pepper powder
1 cup soy sauce

Procedure:

1. Behead the fish, remove the internal organs and scales then wash thoroughly.
2. Fillet the fish, wash and drain then set aside halves.
3. In a separate mixing bowl, mix all ingredients.
4. Soak the fish fillet into the mixture for 6 hours and drain.
5. Sun/air dry the fish fillet until dry to touch.
6. Pack in a polyethylene bag and seal. Keep the product frozen for longer storage.

Cooking Procedure:

** Fry in a small amount of oil for 5 minutes.

FISH LUMPIA

Raw Material:
½ cup minced fish



Ingredients:
1/8 kg. raisin 1 tsp. ground pepper
1 tbsp. iodized salt 1 cup carrot (minced)
1 egg 100-500 pcs. lumpia wrapper
2 tbsp. garlic (minced) 1 "singkamas" (chopped-optional)
2 tbsp. onion (minced) 1 cup potato (chopped-optional)
¼ cup flour (optional) Cooking oil for frying

Procedure:

1. Sauté garlic and onion, add minced fish, salt, pepper, egg and cook for 3 minutes.
2. Remove from frying pan and let it cool.
3. Mix the remaining ingredients.
4. Wrap ½ tbsp. of the mixture in a lumpia wrapper.

5. Seal it with egg white.
6. Pack in a polyethylene bag and seal.
7. Keep the product frozen for longer storage.

Cooking Procedure:

** Deep fry until golden brown.

FISH ROLL

Raw Material:
3 kg. fresh fish



Ingredients:
1 tbsp. iodized salt 6 tbsp. soy sauce
250 pcs. lumpia wrapper 5 tbsp. calamansi juice
1 tbsp. garlic powder 3 tbsp. brown sugar
1 tbsp. black pepper powder

Procedure:

1. Behead the fish, remove the internal organs and scales then wash thoroughly.
2. Fillet the fish, wash and drain.
3. Cut fillet into stick (1/2" x 1/2" x 2").
4. Marinate sticks for 2 hours. (Marinating solution can be used twice)
5. Drain, wrap in a lumpia wrapper.
6. Pack in a polyethylene bag and seal.
7. Keep the product frozen for longer storage.

Cooking Procedure:

** Deep fry until golden brown.



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TILAPIA Recipes



MINCED FISH PROCESSING (TILAPIA)

1. Remove the head, viscera, scales and wash thoroughly.
2. Fillet the fish.
3. Pass through in a meat grinder.
4. Keep frozen until used for product development or processing.

FISH LONGANISA

Raw Material:

3 cups minced fish

Ingredients:

1 tbsp. white pepper
1 tbsp. cornstarch
1 tsp. all spice powder
1 tbsp. fresh garlic



4 tbsp. iodized salt
1 tbsp. fresh garlic
10 tbsp. atsute
cooking oil for frying

Procedure:

1. Mix the minced fish and all ingredients.
2. Tie it with a cotton thread in equal distance of about two (2) inches.
3. Stuff manually or using a machine in a pig casing.
4. Pack in a polyethylene bag and seal.
5. Keep the product frozen for longer storage.

Cooking Procedure:

** Cook in a small amount of water and let it dry. Add a small amount of cooking oil, fry until golden brown.

FISH BURGER

Raw Material:

3 cups minced fish

Ingredients:

1 cup onion (chopped)
¼ cup milk powder
½ cup breadcrumbs
½ tbsp. calamansi juice
1 tsp. iodized salt



cooking oil for frying
½ tbsp. hamburger seasoning
3 tbsp. cooking oil
1 tsp. ground pepper
1 pc. egg

Procedure:

1. Blend minced fish and all ingredients well.

2. Form into round shape using a molder.
3. Steam for 2 to 3 minutes and let it cool.
4. Pack in a polyethylene bag and seal.
5. Keep the product frozen for longer storage.

Cooking Procedure:

** Fry in a small amount of oil for 2 to 3 minutes.

FISH NUGGETS

Raw Material:

3 cups minced fish

Ingredients:

1 ½ cup onion (chopped)
¾ cup breadcrumbs
1 tbsp. cooking oil
2 tsp. white sugar
¼ cup garlic (minced)



2 pcs. shrimp cube or ½ cup shrimp flesh
cooking oil for frying
½ cup flour
½ tbsp. iodized salt

Procedure:

1. Mix all ingredients.
2. Mold or form into desired size.
3. Dip nuggets into the prepared batter mix, then coat with breadcrumbs.
4. Pack in a polyethylene bag and seal.
5. Keep the product frozen for longer storage.

Batter Mix Preparation:

2 pcs. Egg
1 tsp. iodized salt
¾ cup cornstarch

** Beat the eggs, add cornstarch and salt then stir.

Cooking Procedure:

** Deep fry until light brown.

FISH BALL

Raw Material:

3 cups minced fish

Ingredients:

¼ cup cornstarch
1 tbsp. iodized salt
1 tbsp. baking powder



2 tbsp. white sugar

Procedure:

1. Mix all the dry ingredients.
2. Add fish meat, gradually pour water and mix well until it becomes sticky.
3. Form into balls.
4. Simmer the balls until it floats.
5. Remove the balls from the water.
6. Cool, pack in a polyethylene bag and seal.
7. Keep the product frozen for longer storage.

Cooking Procedure:

** Deep fry until golden brown.

Sauce Preparation: (Sweet and Sour)

½ cup water
½ brown sugar 1 tbsp. soy sauce
¼ cup vinegar 1 tbsp. cornstarch

** Mix all ingredients in a casserole. Cook in a slow fire, continue stirring until it becomes a syrup.

BREADED FISH STICKS

Raw Material:

3 kg. fresh fish

Ingredients:

1 cup iodized salt 500 ml. cooking oil
1 pack breadcrumbs batter mix



Procedure:

1. Behead the fish, remove the internal organs and scales then wash thoroughly.
2. Fillet the fish (skin must be removed), wash and drain.
3. Cut fillet into stick (1/2" x 1" x 3").
4. Prepare 3 brine solution [one (1) cup salt is dissolved in 33 cups water], soak fish sticks for 30 minutes.
5. Drain, then dip into the prepared batter mix and roll in breadcrumbs.
6. Pack in a polyethylene bag. Keep the product frozen for longer storage.

Batter Mix Preparation:

2 pcs. Egg
1 tsp. salt
¾ cup cornstarch

** Beat the eggs, add cornstarch and salt then stir.