

Innovation: milkfish offal as “polvoron”



Award-winning innovator Dr. *Laurentina Calmorin and her milkfish polvoron*

ordinary polvoron has a ratio of one part bone meal to one-half part powdered milk; semi-special has a 1:1 ratio, and the special polvoron has a 1:2 bone meal to milk ratio.

In a taste test at NISPC, Dr. Calmorin reported that majority of the panelists who evaluated product acceptability in terms of odor, color, flavor, and texture said that they “like the polvoron very much.”

This innovative study won the second prize of the *Aquatic Technology Enterprise Award* sponsored by the Philippine Council on Aquatic and Marine Research and Development (PCAMRD). The awarding was made on 21 July 2000 in Los Banos, Laguna during the science community’s national S & T week 2000. Dr. Calmorin received a plaque and cash award of P30,000.

Dr. Calmorin averred that since milkfish bone polvoron (MBP) is very much acceptable, saleable, and profitable, towns where milkfish is abundant can adopt MBP as livelihood and augment the income of rural folks.

She also suggested that a study of MBP’s shelf life should be conducted so that its expiry date can be determined. Likewise, the MBP’s nutritional values should be analyzed so that these would be reflected as nutrition facts on the label, and to entice more consumers. Microbial tests of MBP should also be done, and an attractive packaging design should be studied to attract consumers.

Other fishbones that can be utilized, according to Dr. Calmorin, are from tuna, siganid (rabbitfish), and goatfish (*tapa*) which are sold in commercial scale. Fishbones from these species should also be studied.

Other than the polvoron study, Dr. Calmorin is also studying the possibility of a milkfish bone meal burger. Again, she utilizes milkfish offal such as backbone,

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How to make milkfish bone polvoron

INGREDIENTS

All purpose flour
Powdered milk
Sugar
Butter
Vanilla extract
Milkfish bones

PROCEDURE

- 1 Soak milkfish bone in a marinating solution overnight.
- 2 Pressure cook for 1 hour at 10 psi
- 3 Grind until powdery. Sundry
- 4 Toast flour until golden brown
- 5 Sift flour. Press the lumps, and sift flour again
- 6 Blend all ingredients except for butter and vanilla extract
- 7 Heat butter and vanilla extract
- 8 Thoroughly blend all ingredients with butter solution. Cool, mold and wrap, and pack

By **AP Surtida**

“Polvo” is the Spanish word for dust or powder, and “polvoron” is a popular Philippine dessert in fully-packed powder form with these ingredients: all-purpose flour, powdered milk, sugar, butter, and vanilla extract.

Now, a researcher from the Northern Iloilo Polytechnic State College (NISPC) in Estancia, Iloilo, central Philippines, adds more value to the popular dessert by enriching it with calcium and protein. Dr. Laurentina Calmorin, a professor and researcher at NISPC, conducted a study utilizing milkfish bones, which is considered offal or waste by the boneless *bangus* or milkfish industry, as additional ingredient in making polvoron. According to Dr. Calmorin, the idea started as an offshoot of their 50 kg a week quota of boneless milkfish being sent to Manila. The milkfish bones had been piling up high.

Dr. Calmorin decided to utilize the bones as an ingredient in polvoron by grinding it into powder. Three kinds of polvoron had been produced by the study. The difference is in the formulation, that is, the ratio of bone meal powder to powdered milk. The

reader feedback

Recently, our editorial consultant, Mr. Renato Agbayani, received the following email from Dr. Theo Ebbers, a consultant on coastal resource management fielded by the German Development Service in the province of Aklan.

Dear Mr. Agbayani:
Attached you'll find a draft proposal for a seminar-workshop on aquaculture which basically follows the frame set by the SEAFDEC aquaculture magazine "A beginner's guide to aquaculture." [This is our issue Vol. XXII, No. 2, March-April 2000. -- Ed.] The goal of the proposed workshop is to provide (the local resource management council) with a basis for project planning ...

Dr. Theo Ebbers <thebbers@kalibo.i-next.net>

We have always known that extension materials on aquaculture are difficult to come by considering that few institutions produce them and in limited numbers. This SAA newsletter for instance has a circulation of 2,500 -- potential aquaculturists and the general public (42%), government extensionists (22%), research and academic community (22%), private sector or industry (9%), and policymakers and local government executives (5%). It is produced every two months. We are therefore heartened to know that one of our newsletter issues has a direct, practical impact on the practitioners of aquaculture.

We have seen a slow but steady increase in the number of paying subscribers, more than 70 new subscribers by mid-year 2000. We take this opportunity to welcome them. Happy reading!

SAA Editorial Staff

Another reader-contributor wrote to thank us for publishing his article on the golden apple snail --

Dear Ms. Castaños:

I wish to thank you for all your assistance. Since the special report on the golden apple snail was published in the SEAFDEC Asian Aquaculture newsletter [This is our issue Vol. XXII, No. 1, January-February 2000.], many golden "kuhol" workers have contacted me and we are making progress in this direction.

We are also very confident that the Government of Thailand's Department of Agriculture (DOA) and the Bureau of Agricultural Research (BAR), Philippines collaborative project on agriculture, fisheries and livestock will soon start. You will be happy to note that our proposal on golden "kuhol" in one of the priority projects of the Thai government ...

Yours sincerely,
Dr. Ravindra Joshi, DA-PhilRice

Dr. Joshi's new contribution, a unique recipe for golden "kuhol" can be found on page 12, this issue. More power, Dr. Joshi!

happy landing

One of our writers, Ms. Nellie Joy Dagoon, has left to pursue a 1-year study program -- MS in Scientific and Technical Communication -- at the University of Minnesota under an assistantship from the American Association of University Women (AAUW). The best of luck, NJ!

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spines, and dorsal fins, excluding viscera and gills. The burger is 100% bone meal with a binder of flour and eggs.

At present, the burger sells for P5 a piece to the faculty and students of NISPC. They produce an average of 200 burgers a day. She wants to make it an official entry to the PCAMRD Regional R&D Review.

She is also developing an *embotido* (meat loaf) with the same milkfish offal as ingredient together with pickles, onions, garlic, peas, and eggs. The *embotido* sells for P15 per roll to the same clientele.

Other products being developed in Dr. Calmorin's laboratory are: milkfish bone soup, bonemeal baby food, sardines spread, and canned seaweeds (*Gracilaria*).

Aside from product development, Dr. Calmorin is also a

prolific author of books. She has published seven books ranging from education, fisheries research, statistics, and mathematics. Her publishers are Rex Book Store and National Bookstore. She also has seven pending manuscripts for the two publishers on fish processing, methods of research, statistics, measurement and evaluation, and income-generating projects from boneless milkfish.

Dr. Calmorin has also published several national and regional scientific papers. She thinks that more than 95% of studies and researches in the Philippines gathers dust in the libraries. If she has her way, she wants all those studies to have a high rate of investment by commercializing them. "It is a huge waste of government money to keep funding researches that have no entrepreneurial potential."

Dr. Calmorin is married to Professor Melchor Calmorin, also of NISPC and has a daughter. ###