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The Making Meatballs Based Main Milk Fish with Addition of Small Crab

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Abstract:

The research aims to determine the effect of addition of small crab meat on making meatballs milkfish and panelists acceptance level of the quality of the resulting meatballs.

he research was conducted using complete randomized design (CRD) with three treatments, treatment A small crab meat in the form of the addition of 5%, B treatment by 10%, C treatment by 15% and the control treatment (without the provision of small crab meat). The parameters analyzed were the value of organoleptic (taste, color, smell and texture) conducted by 14 panelists using a scale of 1-9 with 5 rejection limits. Organoleptic test data were analyzed with descriptive analysis.

The results showed the addition of small crab meat in this research give effect to the preference level panelists to meatballs produced where for all the organoleptic, then the control treatment had the lowest values. Nevertheless, the parameters associated with the aroma, the most preferred meatballs panelist is the addition of small crab 5%, most preferably the addition of texture parameter small crab 15%, while the parameter most preferred color and flavor panelists on the addition of small crab meat 10 and 15%.

Keywords: *meatballs, milkfish, and small crab meat*

1. Introduction

Meatballs is one of refined products is very popular. Many people like it, from children to adults. The meatballs are not only in a dish such as meatballs or chicken noodle noodles, but the meatballs as well as ingredients in a variety of other cuisines, such as the making fried rice, fried noodles and various soups capcay (Sudarwati, 2007). Furthermore, Widyaningsih and Murtini (2006) states meatballs are processed products where the meat has been mashed beforehand and mixed spices, flour and then shaped like little balls and then boiled in hot water.

During this time, in making meatballs, the main ingredient is meat. The meat used can be beef, chicken or other meats. In this research, the type of meat used is the meat of the milkfish. Determination of the use of meat milk fish in this research because of the potential raw material milkfish are abundant enough, especially in South Sulawesi.

Fish meatballs is a gel form (darkness) and the meat fish that in the treatment process must be arranged such a way that the final product has a good gel properties in elasticity and appearance from (Department of Fisheries, 1999, in Anggo and Romadhon, 2006). The properties of the gel that forms, besides affected by treatment during the processing process, is also influenced by the structure of the meat (muscle) of fish and chemical composition (Ismanadji and Sudari, 1986).

Flour is the main ingredient making meatballs than meat. Making meatballs often also be giving additional materials as practiced by Sudarwati (2007) which added in making meatballs chitosan as a preservative. In this research does not use preservatives and additives are given to the milkfish meatballs are small crab meat suspected to be able to add a distinctive flavor to fish meatballs.

2. Purposes Research

The research aims to determine the effect of addition of small crab meat on making meatballs milkfish and panelists acceptance level of the quality of produced meatballs.

3. Methods

3.1. Research Design

This research is the research descriptive method of analysis in a laboratory scale. The research was conducted using complete randomized design (CRD) with three treatments, treatment A small crab meat in the form of the addition of 5%, B treatment by 10%, C treatment by 15% and the control treatment (without the provision of small crab meat). The parameters analyzed were the value of organoleptic (taste, color, smell and texture).

3.2. Time and Place Research

This research was conducted in June-August 2016 in Laboratory Study Program of Agricultural Technology, Faculty of Engineering, Makassar State University.

3.3. Tool

- Scales electrically
- Stove
- The basin
- Knives
- spoon
- The pot cooking
- Puller tool fishbone
- blender
- Mixer
- Calculator

3.4. Material

Raw materials used in this research is the meat fresh fish and fresh small crab meat obtained from one of the small crab meat processing company in Pangkep. small crab meat used is the meat in the small crab claws. Additional materials used are tapioca starch, corn starch, ice cubes, and spices comprising garlic, shallots, salt and pepper.

3.5. Procedures

The process of making meatballs in this research refers to results of research conducted by Widyaningsih and Murtini (2006), namely:

- Wash clean fresh milkfish and weed by removing the entrails and gills of fish.
- After rived, fish washed clean and then released back to the bones using a machine puller fish bones.
- Then the fish meat is cut into small pieces to facilitate the grinding process.
- An ice cube inserted at the time of grinding to maintain the elasticity of the meat, so the meatballs produced will be suppler.
- Meat that has been pulverized mixed with tapioca starch and spices that have been mashed, hen grinded back so that the fish meat, tapioca, spices and small crab meat mixed with appropriate treatments, namely A treatment 5%, B treatment 10%, C treatment 15% and K (control) without the provision of small crab meat mixed homogeneous and form a smooth dough.
- The dough that is formed is poured into container and ready for printing a small ball shaped spheres.
- How to print the meatballs by hand by way of clenched batter and then pressed so that the batter who has solidified will come out in the form of spheres
- Meatballs spheres that have been formed then immediately be boiled in a pot of boiling water
- Boiling the carried out until the meatballs are cooked marked with meatballs buoyancy to the surface.
- The meatballs that had been overcooked in the drain and after cold stored in a container that has been determined to be done organoleptic test.

3.6. The Parameters to be Analyzed

In this research, the observed parameters are organoleptic tests. Determination of the organoleptic test to colors, taste, smell and texture that be done the 14 panelists using a scale of 1-9 with 5 rejection limits. Organoleptic test result data obtained, furthermore analyzed with descriptive analysis.

4. Results and Discussion

Assessment by organoleptic also called sensory assessment is an assessment a regular applied to agricultural commodities which includes fishery products. Making meatballs is expected according to what is desired by consumers. Conformance with what is desired by consumers include color, the aroma, flavor and texture (Hasrati and Rusnawati, 2011).

A value panelists in this research were within the range of 6. This is in line with research conducted by Anggo and Romadhon (2006) who conducted the research the making fish meatballs with the addition of small crab eggs. This research as well as research conducted by Anggo and Ramadan (2006), is still in the category of preferred because it is in the top 5. Furthermore, Anggo and Romadhon (2006) states that the value of consumer preferences that are not too big because physically with different raw material egg small crab with meatballs of beef that has been on the market. Anggo and Romadhon (2006) also states, a good taste of food is determined by the odor or flavor of food itself. Aroma small crab meat is specific is that the small crab meat the aroma which give the fishy the aromatic aroma besides other seasonings.

4.1. The Color

Color is one of the parameters simply determine whether or not a meatball preferred. Sometimes a person before buying or eating a meatball, then he first saw the color of meatballs itself. Organoleptic test results related with the color of meatballs in this research can be seen in Figure 1.

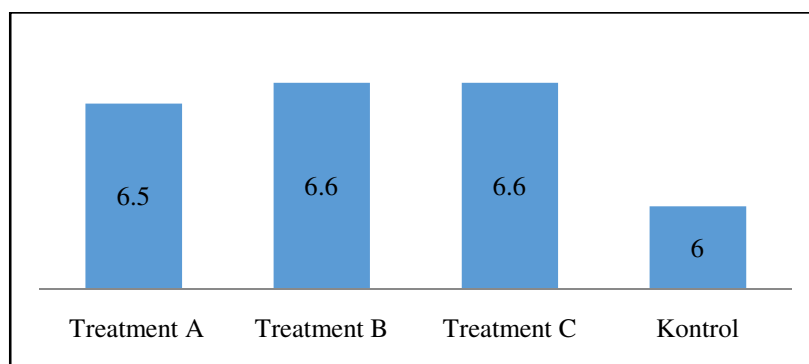


Figure 1: Test Results Organoleptic Fish Meatballs most preferred panelist related color meatballs

The results showed that the most preferred color meatballs panelist is fish meatballs small crab meat with the addition of 10% (B treatment) and 15% (C treatment) with respective values of 6.6. Followed treatment the addition of small crab meat 5% (A treatment) and the lowest in the treatment without giving small crab meat (Figure 1). Thereby it can be said that the more the treated Extra small crab meat, then meatballs produced increasingly favored panelists. In addition to color, shape and size of the meatballs have an important role to be preferred or not preferred by consumers. This was in line with the opinion of Suprpti (2005) which states meatballs will look more attractive if it has a rounded shape, and appear clean and a shiny.

The smell

The smell of is something observed by the sense of smell (Hasrati and Rusnawati, 2011). Furthermore, the smell and flavor to the meatballs, including fish meatballs tend to come from the fat content of the meat meatballs constituent material which in this research is the meat fish and small crab meat. Results of research related organoleptic the smell of in this research can be seen in Figure 2

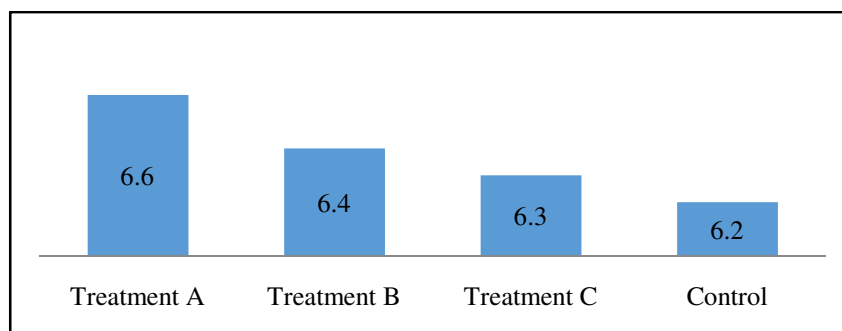


Figure 2: Test Results Organoleptic Fish Meatballs most preferred panelist related the smell of meatballs

The results showed that the most preferred fish meatballs panelist related with the smell of meatballs produced in this research lies in the treatment small crab meat increase by 5% (A treatment) with a value of 6.6. Followed treatment the addition of small crab meat by 10% (B treatment) and 15% (C treatment) each with a value of 6.4 and 6.3. While the lowest value lies in the treatment of meatballs without giving small crab meat. The scent or smell less tasty, fishy taste meatballs for example, will lower consumer tastes or interests (Suprpti, 2005).

4.2. Flavor

Flavor was assessed by the sense of taste is basically divided into four criteria: flavors salty, bitter, of acid and sweet (Hasrati and Rusnawati, 2011), and according Desrosier (1988) the smell of and flavor is a flavor component.

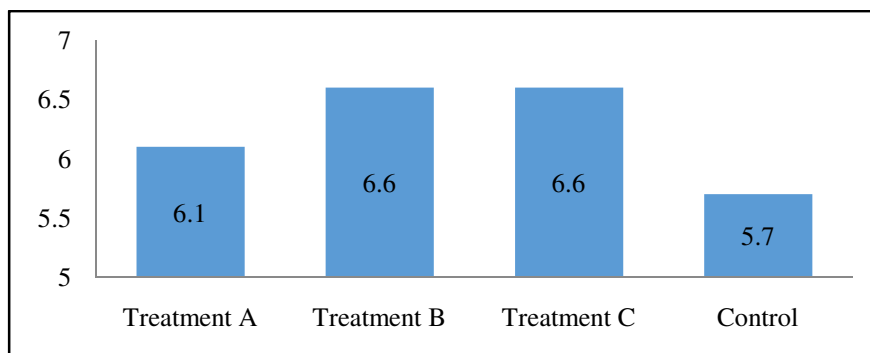


Figure 3: Test Results Organoleptic Fish Meatballs most preferred panelist related the flavor of meatballs

The results show the value of organoleptic flavors, then the most preferred fish meatballs panelist is treated with the addition of small crab meat 10% (B treatment) and 15% (C treatment) with respective values of 6.6. Followed treatment small crab addition of 5% (A treatment) with a value of 6.1. While the low organoleptic value lies in the control treatment with a value of 5.7 (Figure 3). Nevertheless, meatballs produced in this research are still in the category preferred by the panelists with a value above 6, except the control treatment (without small crab) shows a value below 6. Meatballs Flavor produced is also influenced by the seasoning provided. This is in accordance with the results of research Wattimena et al. (2013) which states meatballs flavors produced can be derived from the spices mixed into the dough making meatballs and has been fused with the main materials used. Furthermore, Suprapti (2005) states meatballs would be better if the seasoning making meatballs be done giving accordingly. Spices should be evenly mixed and fused in the dough.

4.3. Texture

Texture is the sensation of pressure observed with teeth when a bite, chewing and presses using the fingers (Hasrati and Rusnawati, 2011). The overall impression of the tenderness include texture and involves three aspects of the assessment of ease of early penetration of the teeth into the meat, the meat easily chewed into fragments / pieces smaller and the amount of residue left behind a half chewed (Soeparno, 1992).

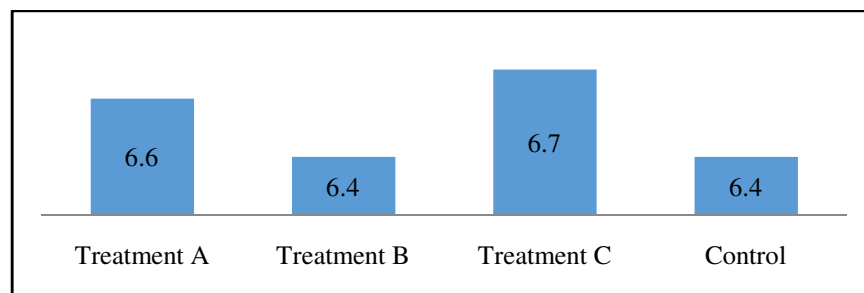


Figure 4: Test Results Organoleptic Fish Meatballs most preferred panelist related the texture of meatballs

The results showed that most preferred meatballs texture panelist is in treatment small crab addition of 15% (C treatment) with a value of 6.7. Followed treatment small crab giving 5% (A treatment) with a value of 6.6 and the lowest at 10% (B treatment) and control with each value of 6.4 (Figure 4). The meatballs are produced in this research was quite chewy and compact texture. This was in line with the opinion of Wibowo (2005) which stated criteria meatballs good texture is compact texture, elastic, no meat fibers, without spines or bones, not soft, not wet and not brittle. According Suprapti (2005) meatballs were too soft (mushy) can decrease the tastes of consumers, as well as the meatballs were too chewy (clay). The level of elasticity meatballs can be increased by adding sodium polyphosphate within the allowable doses or with glutinous rice flour in a certain amount.

5. Conclusion

The addition of small crab meat in this research give effect to level of preference panelists to meatballs produced where for all the results of organoleptic tests, except the control treatment had the lowest values. Nevertheless, related parameter the smell, then meatballs most preferred panelist is the addition of small crab 5% (A treatment), the parameters of texture most preferably the addition small crab 15% (C treatment), while the parameters of color and flavors most preferred panelist in the addition of meat small crab 10% (B treatment) and 15% (C treatment).

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