THE DIFFERENCE OF CROISSANT QUALITY USING THE METHOD OF FOLDING A DIFFERENT ADONANT

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Abstract

This research is motivated by the four methods of folding the dough used in the process of making Croissants, but only one method is used. The purpose of this study is to analyze and compare the quality of Croissants, which include volume, shape, layer shape, layer tidiness, color, aroma, texture, and taste by using two different dough folding methods namely the French and Dutch methods. This type of research is a(true experiment) using a randomized design method complete with the research object, namely Croissants. The research data were analyzed using a different test (T-test) to see a real difference between the two treatments with a significant level of 1%. The results of different tests showed that there is no real difference in quality between the two treatments (X_1 and $X_{2)}$ for F_{count} volume (-2.587), shape (-0.784), forms a layer (-1.414), neatness layer (-1.414), Color (-1,706), Aroma (-1,633), texture (-0,535), and taste (-0,894) < F_{table} (3,36). Based on the results of the level test Croissant, sample X_2 (Dutch Method) gets the highest score on each quality indicator.

Keywords: *Folding Dough Method, Quality Croissant*

INTRODUCTION

Croissant Is one of the products *pastry* derived from folding dough that is almost the same as the *puff pastry* with distinctive characteristics in layers and shaped like a *crescent* (in French), which in Indonesian is defined as a crescent, but some are in the form of horns (*horn*). As Wayne Gisslen (2005: 154) revealed that "most *Croissants are* indeed crescent-shaped, but there are also those in the form of horns which are processed by the dough fold technique." The layer is formed by *shortening, which* is between the dough during the process of folding the dough, which is assisted by yeast as a developer. Thus making the dough in the form of a thin sheet and layered in each dough.

In line with the opinion above Gisslen (1998: 151) also revealed that "sheet dough is doughy *pastry* that is ground, folded and coated with butter or fat in order to obtain a layered and shriveled result because during burning there has been fermentation and development in the dough by heat, steam, and butter that evaporates. "

Croissant is a processed bread-shaped pastry products crescent made from, made from mixing dough (flour, yeast, milk powder, salt, eggs, and water) which will be coated with a layer of fat (*roll-in fat*) before it is done grinding and folding the dough using the French and Dutch methods. The used in making dough are *Croissant* ingredients almost the same as other products' pastry. As Subagjo (2007: 15) reveals, the ingredients consist of: *"Flour* (flour), *Egg* (Egg), *Milk* (Milk), *Fat and oil, Sugar* (sugar), *Yeast* (yeast), *Salt* (*Sodium Chloride), Water* (Water), *Nut's,* and *Fruits*." The

difference lies in the *Croissants* who use more fat to make quality dough, and the resulting sheet is excellent. Anni Faridah et al. (2008: 249-253) say that "dough *pastry* quality depends on the use of quality ingredients as well."

The fat used in making *Croissants* is *corsvet butter/ roll-in fat.* This fat is used correctly to produce a dough that is typically folded to produce dough sheets, which later after baking will form a crisp texture and savory taste. According to Adjab Subagjo (2007: 32), "*pastry fat* or *korsvet* is a type of fat that has been processed in the factory by changing the melting point that was high to low so that only with a slightly high-temperature *pastry fat* can melt completely."

In addition to wheat, flour, fat is also one of the main ingredients in making *croissants*, which play a role in forming the dough framework. The flour used is *hard* (high protein flour). Nevertheless, the making of *Croissants is* also inseparable from the role of yeast as a developer, milk powder, granulated sugar, salt, and water as a flavoring and mixing mixture. According to US Wheat Associates (1983: 184-185), "gluten in dough can develop due to the presence of water and the stirring process."

The method of folding the dough has an essential role in the process of making *croissants* because, by the process of folding the dough over and over again, this will produce layers in the form of thin sheets on *croissants.* According to Hebert Bisno (1969), what is meant by the method is "techniques that are generalized well in order to be accepted or can be applied equally in practice, or the field of discipline and practice." Deeper, according to Hidayat (1990: 60), "the word method comes from Greek, methods, which means the way or way." The way or method referred to here is an attempt or effort in achieving something that is desired.

During this time, processing *Croissant pastry* is applied on campus to be studied by students from year to year using only one method of folding the same dough, namely the method of folding the English. *Where korsvet* or *shortening* forms a layer covering 2/3 of the surface of the dough flattened, then folded into three before the process grinding and folding. Besides, the folding technique used is always the same, namely the single fold technique. This method often fails during practice, such as rolling the dough too thin or too many folds, then putting too much or too little fat, the dough that does not *relax* before baking, besides the cause of failure can also come from the equipment used.

While from some of the literature that the author read that this method of folding dough *Croissant* continues to develop with several methods of folding dough techniques. Where each of these methods has advantages and disadvantages of each. As Anni Faridah (2008: 257-260) explained that "there are four methods of folding dough *Croissant* (English, French, Dutch, and Scottish) which are currently growing so that the process of making dough is *Croissant* more effective, efficient, fast and less time is used to process *Croissants. "* Starting from the four methods above, and only one method was applied during the practice *pastry,* then to increase students' knowledge in folding dough *Croissant,* researchers have researched by comparing two different methods, namely the French method and the Dutch method.

The Method is Dutchdifferent from the French method. Because when making the dough *korsvet* combined with flour (1/3) of all wheat flour dough used as *dusting*. So that the dough is not too hard, this method has advantages such as a fast-folding process because it does not require a long rest period, there is no skin formation on the surface of the dough, and the resulting product is softer due to the presence of an outer fat layer. It is hoped that the results of this study can reduce the level of failure

of students in making *Croissants. By* choosing the methods and techniques of folding this dough as a variation during practice in the *workshop* and the knowledge of students in folding dough *Croissant* can also be increased.

The purpose of this study was to analyze the quality of *Croissants* (volume, shape, shape of layers, tidiness of layers, color, aroma, texture, and taste) using different methods of folding the dough (French and Dutch). Then to compare the use of different methods of folding the dough (French and Dutch). On the quality of *Croissants* (volume, shape, layer shape, tidiness of layers, color, aroma, texture, and taste).

RESEARCH METHODS

The type of research was a simple experiment (*true experiment*), namely by conducting direct experiments to analyze the effect of the method of folding the dough on the quality of *Croissants.* The object of this research is dough *Croissant* with different methods of folding dough, namely: French and Dutch methods. However, researchers only used two methods in the process of making *Croissants,* namely the French and Dutch methods with the same tools and materials to analyze the differences in the quality of *Croissants* in terms of volume, shape, layer shape, layer neatness, color, aroma, texture, and taste.

This research has been carried out in the Workshop on Catering, FPK Department FPP UNP for three repetitions, and then organoleptic tests. The data in this study is the quality of *Croissants* obtained from 5 expert panelists of lecturers in the catering field of Food *pastry*. Then the data in the organoleptic test format is tabulated in tabular form using Microsoft Excel, then analyzed using a different test (t-test). The following conceptual framework in making *Croissants* :

RESEARCH RESULTS AND DISCUSSION

Research Results

The t-test was used to analyze differences in the quality of *Croissants* with the technique *Independent Sample Test* at a significant level of 1% (0.01). In order to find out whether there is a difference *mean* between the two different treatment groups. Following are the average results of each treatment and the level of difference in the table as follows:

Table 1 Statistical Summary Results Test t Quality *Croissants*

Quality	Method		Df	T arithmetic	T table	Sig.
	France (X_1)	Dutch (X_2)				
Volume	2.9	3.7	8	-2,587	3.36	0.01
Forms *Croissant*	2.9	3.5	8	-0.784	3.36	0.01
Layers *Croissant*	3.1	3, 7	8	-1,414	3.36	0.01
Layer	2.8	3.6	8	neatness-1.414	3.36	0.01
Color	2.9	3.6	8	-1.706	3.36	0.01
Fragrance	3.5	3.7	8	-1,633	2.36	0.01
Texture	3.3	3.3	8	-0.535	3.36	0.01
Taste	3.5	3.8	8	-0.889	3.36	0.01

External Quality

Different test results expand the volume of *Croissant* with technique *independent sample T-test* states that Ho is accepted, it means there is no real difference in the quality of the volume between the two treatments$_{(X-1}$ and$_{-2)}$for t (-2.587) <t table (3.36). The method that gets the highest score on the quality of the expanding volume, which is marked by the opening of the layer *Croissant*, is X_2 (*Dutch Method)* of 3.66, while X_1 (*France Method*) of 2.90*.*

Different test results with the technique *Independent Sample T-test* on the quality of the shape and shape of the layer *Croissant* stated that Ho was accepted, meaning that there was no significant difference in the quality of the shapes between the two treatments (X_1 and X_2) because t counted the form (- 0.784) and the shape layer (- 1,414) <t table (3,36). In the quality of the shape and shape of the layer marked by the opening of the layer *Croissant*, the method that gets the highest value is X_2 (*Dutch Method)* of 3.50 and 3.73*.*

Different test results with the technique *Independent Sample T-test* states that Ho is accepted, meaning that there is no significant difference in the quality of the layer tidiness *Croissant* between the two treatments (X_1 and X_2) because t arithmetic (-1,414) <t table (3.36). In the neatness quality layer, the *Croissant* method that gets the highest score is X_2 (Dutch*Method)* amounted to 3.60, while X_1 (FranceMethod)of*2.80.*

Results of different test techniques *Independent Sample T-test* states that Ho is accepted, it means there is no different color quality *Croissant* real between the two treatments$_{(X-1}$ and$_{-2)}$for the t (- 1.706) <t table (3.36). On the indicator color is brownish-yellow croissants, samples that received the highest score is X_2 (DutchMethod)amounted to 3.60 while X_1 (FranceMethod)was 2.93.

Internal Quality

Test results differ from the technique in which the *Independent Sample T-test* states that Ho is accepted, meaning that there is no significant difference in the quality of the aroma *Croissant between* the two treatments (X_1 and X_2) because t arithmetic (- 1,633) <t table (3.36). The quality of the scent *Croissant* method that gets the value highest is X_2 (*Dutch Method*) of 3.66 while X_1 (*France Method*) of 3.53.

Results of different test techniques *Independent Sample T-test* stating that Ho is rejected, meaning that there is a real difference in the quality of texture between the two treatments$_{(}X_{-1}$ and $X_{-2)}$for t (-0535) <t table (3.36). On the texture indicator, *Croissant Sample* X_2 (*Dutch Method*) received the highest score of 3.33. While sample X_1 (*France Method*) was 3.26.

Different test results with the technique *Independent Sample T-test/* states that Ho is rejected, meaning that there are significant differences in taste quality between the two treatments (X_1 and X2) because t arithmetic (-0.894) <t table (3.36). The method that gets the highest value on the quality of taste is X_2 (DutchMethod) of 3.80, while X_1 (FranceMethod)of 3.46.

External 1.2.1.Quality

of different test results for volume expands Croissant with technique independent sample T-test states that Ho is accepted, it means there is no real difference in the quality of the volume between the two treatments$_{(X-1}$ and $_{X-2)}$for t (-2.587) <t table (3.36). The method that gets the highest score on the quality of the expanding volume, which is marked by the opening of the layer *Croissant*, is X_2 (*Dutch Method)* of 3.66,

while X_1 (*France Method*) of 2.90. The expanding volume of the *Croissants* can be seen after the roasting process caused by yeast as an aeration agent. According to Hendrasty (2013: 29) revealed that "yeast functions as an aeration agent or developer which when moistened and heated will produce carbon dioxide gas (CO2), which helps the process of developing *Croissants*. As the volume of good bread, according to US Wheat Associates (1983: 163), is 1) The surface of the bread, the greater the volume of bread, the softer the bread, 2) Bread that is perfectly volume, large, light-weighted by hand.

The shape indicator consists of two sub-indicators, namely the shape of a *croissant* and the shape of a layer *croissant.* Results of different test techniques *Independent Sample T-test* states that Ho is accepted, it means there is no difference in the quality of shape and form of a real layer between the two treatments$_{(X-1}$ and$_{-2)}$due t the (-0.784) and form layers (-1.414) <t table (3.36). The score on the sub-indicator *Croissant*, sample X_1 (*France Method*), was 2.93. At X_2 (*Dutch Method*) of 3.50. In the croissant layer sub-indicator, sample X_1 (*France Method*) is 3.06. At X_2 (*Dutch Method*) 3,73. In the quality of the shape and shape of the layer, which is marked by the opening of the layer *Croissant*, the method that gets the highest value is X_2 (*Dutch Method)* of 3.50 and 3.73.The thing that influences the shape of *croissant* the crescent shape is the process of cutting and forming the dough. As revealed by Nugraha (1984: 54), "a form can be created with free hands or use aids, the form of food can be made or created according to the creativity of the maker and the specifications of the food itself." In line with the opinion above, Anni Faridah (2008: 266) also revealed that "Bread dough that has been made (folded) is rested, cutting is done according to a certain size using a sharp knife."

Different test results with the technique *Independent Sample T-test* states that Ho is accepted, meaning there is no difference in quality neatness layer *Croissant* real between the two treatments$_{(X-1}$ and$_{-2)}$for t (-1.414) <t table (3.36). In the neatness quality layer, the *Croissant* method that gets the highest score is X_2 (Dutch*Method)* amounted to 3.60, while X_1 (FranceMethod)of*2.80.* The neatness of this layer is marked by the opening of each layer of *Croissant* perfectly, which is obtained from the dough grinding process. According to Anni Faridah (2008: 266), "When rolling the dough evenly and uniformly, when using a dough grinding machine, the thickness of the tool is set to get neat results'. '

Results of different test techniques *Independent Sample T-test* states that Ho is accepted, it means there is no different color quality *Croissant* real between the two treatments$_{(X-1}$ and $_{X-2)}$for the t (- 1.706) <t table (3.36). On the indicator color is brownish-yellow croissants, samples that received the highest score is X_2 (DutchMethod)amounted to 3.60 while X_1 (FranceMethod)was 2.93. Ingredients that affect the color of a *croissant* are eggs, especially the yolk, as a smear so that the color of the *croissant* will turn golden yellow. In this study, the ingredients used for each sample are the same, so the results are not significantly different. According to Ruaida (2013: 51), "*Lutein* in egg yolks can evoke the color of the production."

Internal Quality

Test results differ from the technique in which the *Independent Sample T-test* states that Ho is accepted, meaning that there is no significant difference in the quality of the aroma *Croissant between* the two treatments (X_1 and X_2) because t arithmetic (- 1,633) <t table (3.36). The quality of the scent *Croissant* method that gets the value highest is

X_2 (*Dutch Method*) of 3.66 while X_1 (*France Method*) of 3.53. Natural ingredients that affect aroma on *Croissant* is a coating material that is fat korsvet dough that has a distinctive aroma. As stated by US Wheat Associates (1983: 122) that "aroma is fragrant issued by a food that has a strong appeal can stimulate the sense of smell and arouse appetite.

Results of different test techniques *Independent Sample T-test* stating that Ho is rejected, meaning that there is a real difference in the quality of texture between the two treatments$_{(X-1}$ and$_{X-2)}$for t(-0535)<t table(3.36). On the texture indicator, *Croissant* sample X_2(*Dutch Method*) gets the highest value of 3.33. While sample X_1 (*France Method*) was 3.26.

The material that affects the texture of a *croissant* is the use of the dominant fat as a layer forming when crushed and folded. The texture will be well-formed if the gluten tissue on the flour becomes weak. According to Ruaida (2013: 52), "Fat to make bread requires one condition which must have *France properties*. *France Properties* is the ability of fat to draw gas from free air when the fat experiences were mixing. Then according to Anni Faridah (2008: 262), "Repeated rolling and folding results in layers (lamination) of dough with a thin layer of fat in between. The layers expand to produce lamination and texture characterized by flakes/layers, giving crispness.

Results of different test techniques *Independent Sample T-test*/ states that Ho is rejected, meaning that there is a real difference in the quality of taste between the two treatments$_{(X-1}$ and$_{X-2)}$for t(-0894) <t table (3.36). The method that gets the highest value on the quality of taste is X_2 (DutchMethod)of 3.80, while X_1 (FranceMethod)of 3.46. According to Hasan Alwi (2009: 932), "Taste is the sensory response to nerve stimulation such as sweet, salty, bitter and sour to the sense of taste." The ingredients that affect the taste in *Croissants* are the use of dominant korsvet fat so that it has a savory taste. According to US Wheat Associates (1983: 121) that the taste can be known when eaten, can have a savory taste.

CONCLUSION

The results of three repetitions of research indicate that the Dutch method is better than the French method. It can be seen from the results of the study using a level test and different tests. Based on the results of the level test *Croissant*, sample X2 (*Dutch Method*) got the highest score on eight questions, namely the quality of the external volume (3.7), shape (3.5), the shape of the layer *Croissant* (3.7), neatness of the layer *Croissant* (3, 6), color (3,6), and internal quality of aroma (3,7), texture (3,3) and taste (3,8) from 8 total questions in this study.

This happens because the Croissant dough with the Dutch method uses an outer layer of fat when making the dough, which is roll-in fat combined with flour (up to 1/3 of the flour is used for basic dough). Therefore, the dough is softer compared to the French method, so that when pressed and folded the dough is softer, elastic, and easy to shape. Also, the folding process is faster because there is no need for long breaks, and there is no formation of skin on the surface. While the results of the different tests (*T-test*) show that there is no significant difference in quality between the two treatments (X_1 and X_2) because $F_{count} < F_{table.}$

For further researchers who want to conduct similar research, can do it using other treatments or methods. This Dutch method can be applied when carrying out practice *pastry by* lecturers as variations in folding the dough so that students' knowledge increases in processing *croissants* with different methods of folding the dough. This

research was conducted with good validity control so that the desired quality was achieved. When rolling and folding the mixture, try to be in the same direction and do not use too much force because it will make a layer *Croissants Disappear*.

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