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THE EFFECT OF TARO BENENG FLOUR (*XANTHOSOMA UNDIPES K. KOCH*) SUBSTITUTION ON THE PRODUCTION *OF BROWNIES COOKIES* ON SENSORY QUALITY

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ABSTRACT:
Taro beneng flour used for substitute flour flour on manufacture deep *brownie cookies* effort utilization food local. Study done for analyze influence substitution beneng taro flour in making *brownies cookies* against quality sensory. Study This carried out in the Laboratory Processing *Pastry* and *Bakery*, Culinary Education Study Program, Faculty of Engineering, Jakarta State University. Method used in study This is method experiment. Research sample This is *brownie cookies* with substitution beneng taro flour with percentage of 10%, 20%, and 30%. Then tested to 5 panelists judging expert aspect color, aroma, texture and taste. Conclusion from study This is *brownie cookies* substitution beneng taro flour with percentage of 30% have quality good sensory For can developed.

Keywords: Beneng Taro Flour, *Brownies Cookies*, Sensory Quality

INTRODUCTION

Taro is one of them type plant tubers from family *Araceae* which can growing in the area with climate tropical, subtropical and temperate (Richana, 2012). Plant taro tubers can live on the plains low until elevation 2700 m above surface sea (Budiarto & Rahayuningsih, 2017). Taro beneng who has Name Latin *Xanthosoma undipes K. Koch* is one types of taro in Indonesia. Taro bengeng Lots found in the Mount Karang region of Banten Province (Suhandi et al., 2020). Colored tubers yellow

and big size is characteristic typical from beneng taro (Redaksi Trubus, 2021).

Taro bengeng have sufficient water content tall so that make taro beneng easy rot If No quick consumed (Putri et al., 2021). For avoid matter namely, beneng taro development become product half So like flour rated more Good For increase Power save and facilitate processing more carry on (Kusumasari et al., 2019). Taro beneng flour generated from tubers fresh beneng taro through some processes ie start from stripping skin, washing, soaking, grating, drying, grinding, sifting, and packaging. Utilization beneng taro flour become product Ready consumption counted Still Not yet many. Based on matter it is necessary exists optimization use beneng taro flour with add variation product processed with beneng taro flour, one of them is cake dry.

Pastries or *cookies* is food light that has form small and textured crispy. Sweet pastries generally made of from flour flour, sugar, fat and eggs. One of the pastries type favorite food many people, In Indonesia *cookies* identical as treat typical at the time day highway like Eid, Christmas and Chinese New Year but No also rarely used as snacks everyday. According to General Secretariat Agriculture (Setjen Pertanian, 2020), in 2016 to 2020 level consumption cake dry in Indonesia continues increases, with an average growth by 4.25%.

As development many times and ages very variation cake existing dry on the market. Variation the covers variation content, variety form nor variation material. one type variation cake dry the is *brownies cookies.*

Brownies cookies is one variation *cookies* from development product *brownies. Brownies cookies* have form round flat, colored chocolate aged, sweet taste and crunchy texture. On manufacture *brownie cookies* materials used namely, flour flour, eggs, sugar, fat and chocolate. Use flour flour on manufacture *brownie cookies* can substituted with use beneng taro flour.

Taro beneng flour contain arranged starch from amylose and amylopectin. In 100 grams of beneng taro flour content amylose 19.27% and amylopectin 37.2% (Kusumasari et al., 2019), flour wheat own content amylose 28% and amylopectin 72% (Pradipta & Putri, 2015). Content amylose and amylopectin influential to texture cake dry. In beneng taro flour, content amylose tall tend can produce product with texture solid and hard, meanwhile content amylopectin more tall tend will produce product with crunchy texture (Kusumasari et al., 2019). Equality content the possible For beneng taro flour made as material substitution on manufacture *brownies cookies.* Use beneng taro flour as material substitution on manufacture *brownie cookies* can be one method reduce use flour wheat with optimizing use originating flour from food local.

Making *brownie cookies* with substitution beneng taro flour is A innovation product made from beneng taro flour. Use beneng taro flour as material

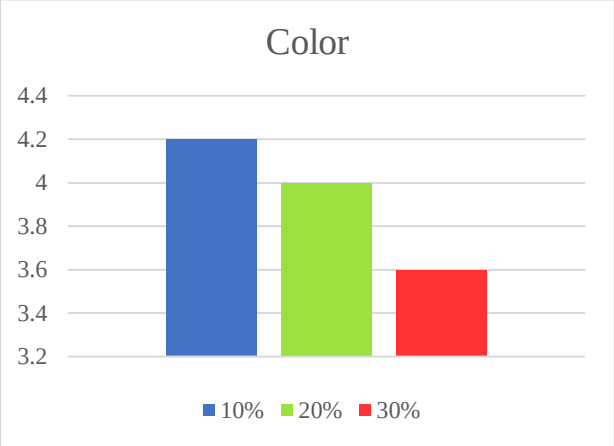
substitution expected can produce *brownie cookies* with quality sensory color, aroma, texture and taste good.

RESEARCH METHODS

Study This carried out in the Laboratory Processing *Pastry* and *Bakery,* Culinary Education Study Program, Jakarta State University. The method used in the research This that is method experiment. On research This quality test is carried out sensory for know and analyze influence substitution flour beng taro on manufacture *brownie cookies* which includes aspect color, aroma, texture and taste with 3 (three) percentages substitution different beneng taro flour namely 10%, 20% and 30%. Panelists in study This is panelists expert 5 (five) panelists.

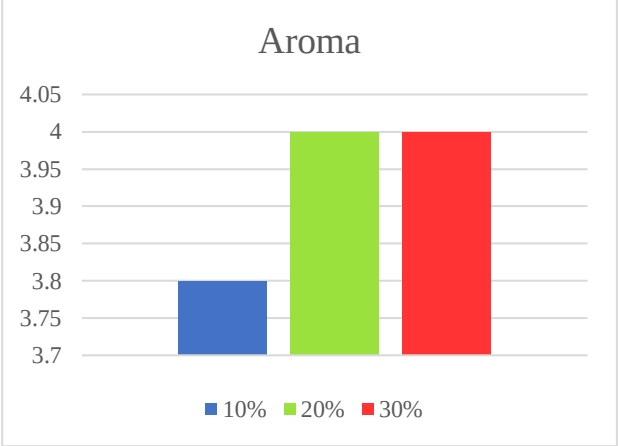
RESULTS AND DISCUSSION

A. Evaluation Aspect of *Brownie Cookies* Color Substitution Beneng Taro Flour



Based on results evaluation panelists expert obtained result on aspect color *brownie cookies* substitution beneng taro flour 10% is 4.2. On *brownie cookies* substitution beneng taro flour 20% is 4 and *brownies cookies* substitution beneng taro flour 30% is 3.6. Based on results the color *brownie cookies* substitution beneng taro flour 10%, 20%, and 30% are in the category evaluation chocolate rather black. Highest average rating are in the *brownie cookies* treatment substitution beneng taro flour 10% with value 4,2. The color on *the brownie cookies* substitution beneng taro flour caused Because exists reaction *millard* that is reaction that occurred between reducing sugars with amino acids during the roasting process. Additionally, use material like chocolate powder and *cooking chocolate* can also influence color Color - dominated *cookies* chocolate (Rusydi, 2018).

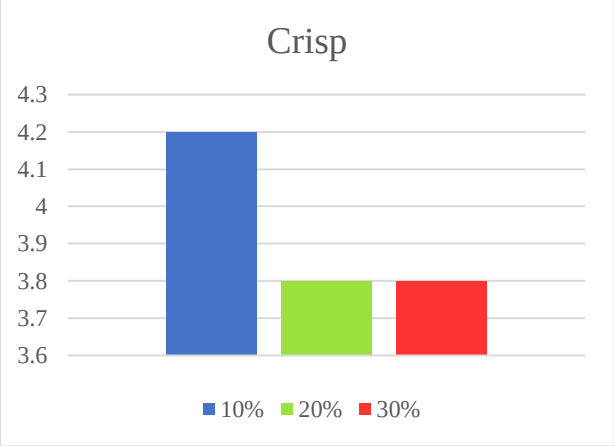
B. Evaluation Aroma Aspects *of Brownies Cookies* Substitution Beneng Taro Flour



Based on results evaluation panelists expert obtained results on the aroma aspect *of brownie cookies* substitution beneng taro flour 10% is 3.8. On *brownie cookies*

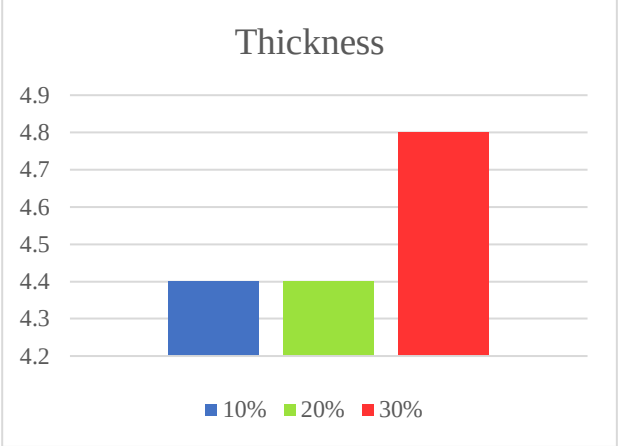
substitution beneng taro flour 20% and 30% is 4. The highest average value be in action *brownie cookies* substitution beneng taro flour 20% and 30% with value 4. Based on results the aroma of *brownie cookies* substitution beneng taro flour 10%, 20%, and 30% are in the category evaluation No including flavorful taro beneng in category ok. this caused Because beneng taro flour which is not emits the dominant aroma moment applied to manufacturers product (Yunierlita & Fadiati, 2023).

C. Evaluation Aspect Crisp *Brownies Cookies* Substitution Beneng Taro Flour



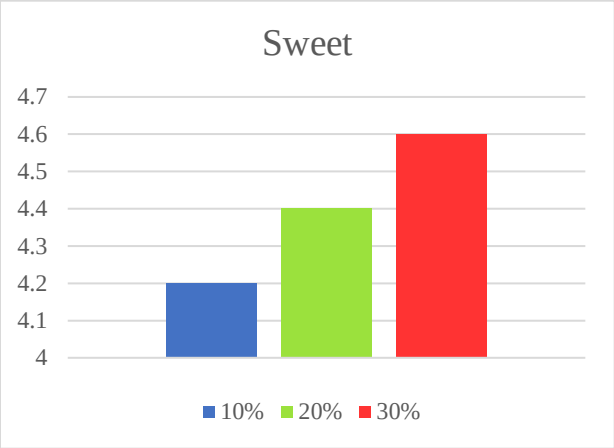
Based on results evaluation panelists expert obtained result on aspect crunch *brownie cookies* substitution beneng taro flour 10% is 4.2. On *brownie cookies* substitution beneng taro flour 20% and 30% is 3.8. Highest average rating be in action *brownie cookies* substitution beneng taro flour 10% with value 4,2. Based on results the crunch *brownie cookies* substitution beneng taro flour 10%, 20%, and 30% are in the category evaluation crispy. According to (Muningrum et al., 2022) and (Musa & Lawal, 2013) the crunch in *the cookies* influenced from many water content. Low water content makes texture *brownie cookies* become crispy.

D. Evaluation Aspect Thickness *Brownies Cookies* Substitution Beneng Taro Flour



Based on results evaluation panelists expert obtained result on aspect thickness *brownie cookies* substitution beneng taro flour 10% and 20% is 4.4. On *brownie cookies* substitution beneng taro flour 30% is 4.8. Highest average rating be in action *brownie cookies* substitution beneng taro flour 30% with value of 4.8 which is in the thin category. The thickness of the brownie cookies is influenced by presence content amylopectin in beneng taro flour. Content amylopectin relate with ability water absorption, the more tall content amylopectin so the more tall rate the water. The more tall amylopectin so more gel formation stand to damage mechanic (Ayuningtyas, 2019) and (Xu et al., 2020).

E. Evaluation Aspects of the Sweet Taste *of Brownies Cookies* Substitution Beneng Taro Flour



Based on results evaluation panelists expert obtained results on the aspect of sweetness *brownie cookies* substitution beneng taro flour 10% is 4.2. On *brownie cookies* substitution beneng taro flour 20% is 4.4 and *brownies cookies* substitution beneng taro flour 30% is 4.6. Highest average rating be in action substitution beneng taro flour 30% with value of 4.6 which is in the category sweet. Factors affecting sweetness *brownie cookies* is sugar use. Jam it, use other materials such as *cooking chocolate* and chocolate powder also available affect sweetness (Pratiwi et al., 2015).

CONCLUSION

based on testing quality sensory *brownie cookies* beneng taro substitution obtained results best in that aspect color *brownie cookies* with 10% taro beneng substitution, *brownie cookies* aroma aspect with taro beneng substitution 20%, aspect crunch *brownie cookies* beneng taro substitution with 10%, aspect thickness *brownie cookies* with 30% taro beneng substitution and sweet taste aspect *brownie cookies* with taro beneng substitution 30%. *Brownies cookies* substitution beneng taro flour with percentage of 30% have quality good sensory and can developed in optimizing use beneng taro flour as material food local.

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