

“Development and Quality Evaluation of Bread Fortified With Partial Substituent Raw Taro Flour”

Impact of Raw Taro Flour on Bread Quality

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ABSTRACT:

The investigation of the present study was to evaluate the effect of taro flour blended with wheat flour for bread preparation taro is gluten-free so it was good for coeliac disease patients also improve the function of your digestive system of your body. Taro bread give more energy, fiber, good starch that prevents and good for human health. Taro contain different types of starch and increase the level of water absorption power and decrease mixing time of dough. Taro flour bread increase nutritional properties also it increases shelf life of bread. Tarowheat composite bread would improve sensory quality, textural, physicochemical, chemical properties. Taro contain good source of fiber that will help and prevent to shelf life of taro for 4-5 days. The result that showed the substitution of (10%) partial taro flour with wheat flour in bread making produced similar bread to the control wheat flour bread. It improves quality, nutrition value and mineral content. Taro corm contain high concentration of Calcium Oxalate crystals that taro corm is not used for human food. It is also used for entrapped flavoring compounds.

Key words : Colocasia esculenta flour, wheat flour, fortified, chemical properties, rheological, sensory evaluation.

I. INTRODUCTION :

Taro (*Colocasia esculenta*) is one of the widely cultivated roots in all over the world. Taro production in total world is 12.5 (million metric tons). It originated in the Bay of Bengal. also covering (Pacific Islands, Hawaii, Philippines, Africa, Egypt) and it similar taste to potato (*Ipomoea batatas*) [1]. There are two types of *Colocasia esculenta*: Chouk and Sla varieties can be defined as “taro cocoyam” and “old cocoyam”. (Wikipedia 2006). These two varieties grown (6-8 month) which is perfect climate of Cambodia, with both the season, half year dry and half year rainy season. Farmers can start planting from April to July and can harvest from December to January. Wild taro (*Trav Prey*) grows naturally in Takeo and Pursat provinces. Stems and leaves are widely used for animal feeding while Taro Tubers and sometimes Taro leaves are widely used for human consumption. *Colocasia Esculenta* (taro) is a tropical plant grown in high rainfall areas. Taro Tubers has a period of 9-10 months from planting to harvest. Taro contain protein (1.5-2.0%), dietary fiber (4gm/100gm), carbohydrates (26.50 gm/100 gm), ash (1.2%), moisture (60-83%), starch (70-80 gm/100 gm). Taro contain anti-nutrients and it maintain shelf-life up to many days/months. Also it is good source of vitamins and mineral.



Colocasia esculenta

Taro protect Babies health condition from diarrhea, pneumonia, beriberi, enteritis diseases that intake with rice and bread [2]. Taro starch can be utilized more as compared to other traditional starches as a better disintegrating agent in tablet form. It was also used for Render plastic biodegradable. Taro tuber contains more than 6 gram of fiber 132 gram than twice amount found in a serving 138 gram of potato. Taro have small grain of starch that work fast to digest in a body, it found twice amount of carotene present in potato [3]. In form of high level of carbohydrate in roots that why noodles, taro powder, cookies, bread was observed by FAO[4] and tubers provide sources of dietary energy in form of carbohydrate. It also used for medicinal purpose improving the stomach and intestines. Taro Tuber should never be consumed raw. It contain calcium oxalate that contain bitter taste. Taro tuber mixed with honey used as a cure for apthae in the mouth. In Hindi taro was known as Aravi, in Sanskrit it was known as Alupam, in Gujarati was known as Alavi, Marathi was known as Alu, as well as in Tamil language taro was called as Sempu. Taro's kingdom is Plantae (plants), Sub-kingdom was known as Tracheobionta (Vascular plants). Its division is Magnoliophytes (Flowering plants), Super division is Spermtophytes (Seed plants). Taro class are come from Monocotyledons (Liliopsida), Subclass is Arecidae. Taro family belong to Araceae (Arum family). Its Genus is Colocasia Schott (Colocasia). Taro's species called Colocasia esculenta (L.) Schott (Cocoyam) Alocasia dussil Dammer. Some side effects of taro are pale stools, loss of appetite, abdominal pain, dark urine, yellow eyes or skin. Taro bread give positive effect on human body. It is gluten free so it is fortified with wheat flour for making bread. Taro have small particle of starch that present (70-80%) so it is high digestibility power. In this result, taro-wheat composite of 5, 10, 15, 20% for making bread and its effects on the physical, chemical properties, sensory evaluation, shelf-life analysis were investigated.

Taxonomy and Morphology of Taro:

Taxonomy:

Colocasia esculenta Linnaeus divided into two different species of the cultivated plants which are known as Colocasia antiquorum and Colocasia esculenta. Sometimes taro also called as elephant ear. At least 100 – 110 genera and more than fifteen thousand species which is made taro [4]. Taro corms present extremely high amount of Calcium Oxalate Crystals which is not good for body so it cannot be used as a food[5]. In Latin words “edible” means “esculenta”. Taro is related to American taro (Xanthosoma) and Caladium (Heart of Jesus) which produces an starchy corm. Taro is a perennial, Colocasia esculenta primarily grown as a root vegetable for its edible.

Taro plants has different shapes and size of rhizomes. Up to 40cm-24.8cm are leaves and sprout from the rhizome. Taro leaves light green beneath and dark green color in above. They are sub-rounded, mucronate at the apex and triangular-ovate, with the tip of the basal lobes rounded and sub-rounded. The petiole height is about 2 ft 7 in – 3 ft 11 in (0.8m-1.2cm). The path can be up to long 10 in (25cm). The spadix is three-fifth as long as spathe, with flowering part up to 8 mm in diameter. The female portion that fertile ovaries intermixed with sterile white ones. The appendage is lesser than the male portion.

People usually consume its edible leaves and corm. Taro corms contain light purple color due to phenolic pigments are roasted, boiled and baked. The natural sugar gives a nutty flavor, sweet. Taro leaves and stems can be eaten after boiling twice to remove acrid flavor. Taro leaves contain good source of vitamin A and C. Due to presence of Calcium oxalate raw taro plant was toxic. By cooking or by steeping in cold water overnight toxin can be minimized.



Morphology:

Taro is naturally monocotyledonous herbs, its harvested after 9 months to 12 months for growth.[6]. 1-2 m of a central corm grows height of taro that lying just below the soil surface which roots grown downwards, leaves grow upwards, while other parts grow laterally. [7]. Leaves shape like a heart, its color was green or purple.

Cultivated taro nature of flowering, fruiting and production of seed has not fully understood. Taro root can be grown infrost-free weather condition in a year. Rainfall is evenly distributed for proper growth and cultivation. Best temperature to growth can be expected 25 degree Celsius to 35 degree Celsius. Soil with good organic matter can be perfect to grow taro root. PH of loamy soil range about 5.5-7 are good for growth.

Stony or rocky soils should not be good for growth so avoid the soil if the soil is not having enough nutrients. Apply F. M. Y. (Farm yard manure) as part of the soil or main field preparation. Remove any weeds while preparing the soil. During growth of season apply fertilizers 2 to 4 times. To make the field soft textured so that taro roots easily grow and develop the soil are required a couple of deep ploughing. Aphids and Red spider are main pests in taro root farming which may attack taro root grown indoors. Leaf blight and downy mildew are main disease in taro root farming. Leaf blight will cause circular spots on leaves. There are 2 types of varieties of taro is Chouk and Sla. It can be harvested 5-8 month after planting.

Chemical Composition of Taro:

Moisture	7.98
Ether Extract	0.76
Crude protein	8.50

Crude fiber	2.58
Ash	3.83
Carbohydrate	76.15

Characterization of Taro:

Taro morphology can be based on leaf, leafstalk, corm and floral characters.[8]. Morphological traits include shape, color and size of tuber, petiole length and color, and stolon formation.[9].



Leaf:

The protein content in taro leaves is (23%), Carbohydrate (87%), found in tuber part and it is a good source of human food.[10]. Taro also rich in vitamins, minerals like Ca, P, Fe. Dietary fiber that presents in taro leaves are good for increasing dietary Bulk consistency due to ability to absorb water. [11].

Root:

Taro roots and tuber have economical source of dietary energy in form of carbohydrate. Taro contains high moisture in tubers so it gives energy from tuber is about 1-3th of an equivalent weight of wheat or rice. It also gives more energy as compared to cereals grains. The protein content is low (1-2%) in tuber and roots on a dry weight basis. (FAO, 1990). Taro corm contains carbohydrates that twice the potatoes. On a dry matter basis 11% crude protein present. Small granule size of starch present in taro and some other nutrients like vitamins, minerals are higher than other crops.

Phytochemicals are taro corm have high amount of beta-carotene that impart on the body on Vitamin A and antioxidant property.

Anthocyanins and Cyanidin 3-glucoside present in taro tuber. Anthocyanins improves blood circulation by decreasing capillary fragility Also it

improves eyesight. Oxalates which impact on acid taste or cause irritation when we eat raw food.

Health Benefit of Taro:

1. **Improved Digestion:** Taro have dietary fiber that helps to improve digestive function like diarrhea, Stomach ulcers.
2. **Blood Sugar Management:** taro have resistant starch. it may reduce risk of diabetes.
3. **May Reduce Your Risk of Heart Disease:** potassium in taro root, a mineral that helps to control high pressure, reduce stress of cardiovascular. Taro leaves contain an essential fatty acid, omega 3 which provides material for hormones to control the contraction and relaxation of wall of the arteries. The blood pressure can be controlled o a normal level.
4. **Lowers Risks Associated with Cancer:** Taro leaves are rich in Vitamin C which act as antioxidants. Free radicals are molecules that fight and protect against cancer build in your body that helps prevent many diseases.
5. **Keeps your eyes healthy:** Taro leaves contain Vitamin C as well as Vitamin A. Vitamin A reaches adaily value of 123%. Vitamin A is very good for maintaining visual acuity as well as preventing eye disease such as cataracts, blindness, and myopia.
6. **Reduces your cholesterol level:** Taro leaves have no cholesterol and only 0-1% total fat. Taro leaves contained dietary fiber and methionine that break down fat and cholesterol into triglyceride.
7. **Boosts your immune system:** Taro leaves gives Vitamin C in 1 cup at least 86% of the daily value that you need and it will increase immune system.
8. **Helps the development of the fetal brain and nervous system:** Taro leaves are good for pregnant ladies because it contains folate compounds besides its rich in nutrition, it contain folate acid which is essential for the development of the fetal brain and nervous system.
9. **May offer Anticancer Properties:** Taro root contain polyphenols that prevents cancer risks.
10. **Weight loss:** good source of Fiber in taro roots, containing 6.8 gram per 132 gram. Taro Contain resistant starch that helps to burns fat in your body.As well as taro leaves contain high amount of protein which means it is a good for gain muscle and reduce fat (taro leaves are low in fat).
11. **Helps prevent anemia:** Taro leaves contain iron minerals help in red blood cell formation. Taro

leaves contain Vitamin C content that helps to absorb the iron well.

12. **Helps reduce wrinkly skin:** Taro leaves contain amino acid called threonine. This protein compound helps the formation of elastin and collagen which are good for healthy skin. It helps prevent skin help rejuvenate skin as well.
13. **Good for your Gut:** It contain plenty of fiber and resistant starch, that is good for gut health.

Uses:

1. Food:

Taro can be prepared by steamed, boiling, fried, baked, braise and stir-fried. If we add taro in stews and soups so it absorbs fatty juices and serves as nutty thickener. Taro has good amount of starch that gives nutty flavor and sweet. taro contains Fat, Fiber, Protein, Ash, Moisture, Vitamin and Minerals. Taro can be used as taro fries, curried taro, taro ice cream, taro chips, taro bread or biscuits, soups. It Texture and sweet taste are similar to potato.

2. Industrial Use of Taro:

Taro can be used as industrial purpose for modifiers for plastic, animal feeds (it contains high protein which is good for pig diets based on rice byproducts), extraction of starch (as sweetener, alcohols for gum, fuel product) or non-starch polysaccharides (it contain 64.4% neutral sugars and 35.6% uronic acid). Also used for making taro flour, frozen taro, taro slices, canned taro, beverage powder (rich in fiber which maintain glucose levels), taro flakes, extruder food, taro meal, cereals, bread, biscuits and cakes taro milk which is typically a boba milk tea is flavored by taro. Taro have potential as invalid foods.

3. Medicinal Use of Taro:

Taro root contain high level of minerals that help to improve high blood pressure by break down into excess salt. It prevent stress on cardiovascular system, helps to control development of chronic heart problem. Taro root contains polyphenol compounds that keep body healthy, also reduce cancer risk. Due to presence of low glycaemic index that prevent body to diabetics. It gives low cholesterol due to presence of resistance starch which can not be digest so it reduces heart disease, improves function of your digestive system and it is good for weight loss. Taro contain high level of Magnesium, Antioxidant, Vitamin C, Vitamin B6, Vitamin A and Vitamin E. it may improve immune system, it gives healthy skin. Also have ability to treat cysts, swelling, strains, and inflammation.

History of Bread:

One of the oldest prepared foods is bread evidence from 30,000 years ago in Europe. According to history[12] In 20th century bread was prepared at industries. Bread slicing machine in 1912 was developed by Otto Frederick Rohwedder.[13]. Bread came to India from abroad, using different routes through Goa and Portuguese.

Bread is the most important food for human after health and water and it cheap and basic instant food available for human consumption. The meaning of bread is little bite and it contain flavor and nutrients remains the basis of our daily diet. Bread flour contain carbohydrates, lipids, fiber, starch, protein, low amounts of vitamins, minerals, enzymes.[14]. The production volume of bread, buns and croissant amounted to 257 thousand metric tons in the South Asian country of India during fiscal year 2020.[15].

Most of the grains are used for making bread is maize, barley, millet, and buckwheat (lacking sufficient gluten) and wheat (having sufficient gluten) that why mostly bread is made of wheat flour. Starch useful not only food items but also for other industry like drug, paper, oil production. Textile, bread processing[16,17]. In Indian yeast used for fermentation in bread. Wheat flour contain protein (26%), sugar (17%), Fat (11%), and mineral (4%) also, contains high amounts of vitamins present in wheat flour.[18,19]. Common ingredient for making bread is salt, sugar, yeast, fat, flour, water etc. [20].

Bread food prepared by baking flour obtained by grind into fine particle of cereals, rye, millet, oats, barley, wheat, maize or some vegetable products, such as beans, peas. Baking was understood by the Chaldeans and ancient Egyptians. Bread is also made from the flour of other wheat cereals like spelt, emmer, einkorn and kamut.

Potential Function Ingredients for Bread Fortification:

Fortification in bread means enriched with nutrients added back into the flour after milling. A regular wheat flour that contains added micronutrients to improve quality, shelf life, nutritive value. Benefit of fortified bread with taro flour it gives vitamin, mineral, fat, fiber, starch, nutritional benefits and also it provides nutty taste, starchy texture, and mild flavor, increase antioxidant property.

Types of Bread:

There are different types of bread that good for healthy body.

White	White bread is made from refined wheat flour. A heavily processed bread to obtain color and flavor, which removes most nutrients.
Wheat	Wheat flour is made from wheat flour, it is very similar to white flour bread with slightly more nutrients than white flour. Wheat flour bread is different from whole wheat flour.
Multigrain	Multigrain bread means the bread was made with multiple grains, possibly including refined and processed grains, leading to less nutrients. Multigrain bread is differ from whole grain bread. For example = brown rice, oats, barley, buckwheat, spelt etc.
Whole Wheat	Whole wheat bread is made from wheat Kernels that have been left intact and not processed. A types of whole grain bread is gives nutrient-rich than wheat bread and healthier body. Present high fiber.
Whole Grain	Whole grain bread made with grains left fully intact can contain wheat, whole barley, brown rice and provides nutrients and all high in fiber. White whole wheat flour is an excellent ingredient to use in whole grain baking, for bread.
Sprouted Grain	Sprouted grain bread flour is made from grains that have been exposed to warm, moist condition. Sprouted grains help body in digestion and increase absorption rate of nutrients in the body. Like sprouted wheat, sprouted legumes, sprouted grains etc. It gives higher protein than wheat flour bread.
Rye	Rye bread flour made from milling of rye grain, typically denser and higher in fiber than wheat flour

	bread. It gives high protein and good amounts of dietary fiber.
Pumpernickel	Pumpernickel bread flour made from coarsely ground rye grain and fermented with sourdough starter-slightly sweeter than rye bread.
Gluten-free bread	Gluten-free bread is made from completely flourless and grains free, such as Taro bread, Potato bread, Cassava bread, Chickpea bread etc. It is main source of carbohydrates.

Different types of bread contain such important nutrients that good for human body. In Table investigate that bread that made from single flour or refined flour gives less nutritive value than other. Other flour some have protein, fiber, gluten free, vitamins that help to body grow.

Taro flour produced gluten-free bread that provides energy, fiber, either extract, vitamins, carbohydrate, ash, moisture and so on. So that taro-wheat flour bread is good for health. Taro is one of that flour that good for health benefits and give so many nutrients that is good for human's breakfast.

Preparation of Raw Taro Flour:

Wash the taro to remove soil

Peeled

Washed and removed water

Cut Taro into small slice and wash

Drying at 45 Degree Celsius for 24 hours

Mill the taro in attribution machine for 15 minutes

Packed

Role of Ingredients for Bread:

Ingredients is used for making bread are Flour, Sugar, Salt, Yeast, Milk, Fat, Water.

1. Flour:

Flour is the main ingredient for bread. It gives the structure, pleasant smell and sweetish taste to bread. If flour is good condition so color is creamy white. Flour have soluble and insoluble proteins. Soluble protein are useful during fermentation process occur it providing

nourishment to yeast for its growth and reproduction.

Composition of Flour:

Composition	Wheat Flour	Taro Flour
Starch	71.5%-75%	70%-80%
Moisture	13.5%-14%	8%-9.5%
Protein (gluten forming)	7%-10%	0%
Protein (soluble)	1%	0.5%-1%
Sugar	2%-2.5%	0.7%-1%
Fat	1%	0%
Ash (mineral salts)	0.5%	10%

2. Sugar:

The main function of sugar is to provide food for yeast, which in turn, produces Carbon dioxide gas, that raises the volume of dough. Sugar enhancing the flavor of bread, helps in retention of moisture in bread, gives golden brown crust color of bread.

3. Yeast:

Without yeast, it is impossible to think of bread. Yeast is second important ingredients for making bread. There are 2 reason of bread dough are fermented. Yeast produces CO2 gas which gives volumes to the bread& for conditioning the gluten dough so that it attains sufficient mellowness to stretch under the pressure of carbon dioxide gas. Yeast requires food (sugar), moisture and temperature for its reproduction and growth.

4. Water:

Drinking water can be used for bread making. Water binds together the proteins (insoluble) which form gluten. Sufficient water used to bind the dough. If too much water used so it may spoil the binding of all ingredients.

5. Salt:

Salt gives taste, it has a controlling effect on yeast. It improves the gas retention power, it has a tightening action on flour protein, it helps to keep moist for longer time. The quantity of salt in a bread formula will vary between 1.5%-2.5% depends on the strength of flour, length of fermentation time, level of flavor desired in the product and hardness of water.

6. Fat:

Fat is used to improves nutritional value, helps in retention of moisture. In small amount, fat has lubricating effect on gluten stands, which

enables the bread to acquire good volume. Fat can add during the last stages of mixing of dough, so it will not effect on water absorption power of the flour,

7. Milk:

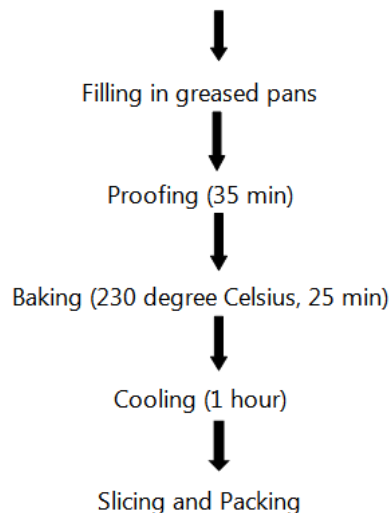
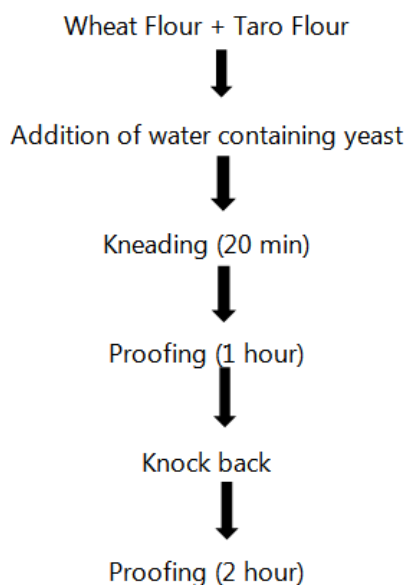
Milk is also used for improves the nutritional value of bread, it has give tightening effect on proteins flour which improves retention power of dough. It has beneficial effect on the physical qualities of bread.

Taro Flour Bread:

Taro bread is a kind of food made of raw taro flour, wheat flour, and water to prepare a dough. Taro flour consists of different types of starch, fiber, water, ash, carbohydrate, as well as low levels of vitamins, appreciable amounts of minerals and enzymes. Taro give good taste to mouth.

In wheat flour mixed taro flour with 5%, 10%, 15% and 20% in 100 gram respectively in flour. adding baker yeast (4-5%) in flour, salt (1-2 pinch), sugar (10 gram), fat, and take Luke warm water or milk to make a soft dough. Then knead the dough for 20-30 minutes. Then proofing for 2 hours for fermentation. Fermented dough filling in greased pans. Proofing for 35 minutes and bake bread in 230 Degree Celsius for 25 minutes. Then give cooling for 1 hour. Then cut into slice and then half bread sample packed in air tight polythene bags and other for sensory evaluation.

Preparation of Wheat Taro Bread:



Taro-Wheat flour bread

Taro Bread's Nutritional Value:

Bread is good food of the daily life human nutrition, bread made to prepare various types of flour. Wheat flour is main ingredient in bread. Hard

wheat has high protein that used for make donuts, croissants. Soft wheat has low protein that used for pastry preparations such as cakes, biscuits, etc.[21].Taro roots present good source of dietary fiber and carbohydrate and low in protein, vitamin C and phosphorus. In Taro 11% of protein is albumin with phenylalanine and leucine. It consumed by roasting, baking, fried and boiled.

Taro-wheat flour bread give good Dough rheological properties than refined flour bread. Farinograph Properties of taro-wheat flour investigate the parameters of bread is increasing taro flour in bread its increase water absorption power with constant mixing time and dough weakening. As well as Dough stability time decrease with increase taro flour.

Extensograph properties of taro-wheat bread indicate that increasing taro flour composite it will show result that decreasing dough energy, resistance to extension, proportional number.

Organoleptic properties indicate that taro wheat flour taste, appearance, roundness, separation of layer, crumb, odor is similar to wheat flour bread.

Chemical Composition of taro-wheat flour indicate wheat contain more protein than taro so that taro-wheat flour bread has less protein than wheat flour bread. Although ash, fiber, carbohydrate is more than wheat flour bread.

Minerals Content in Taro Flour (mg/100gm):

Table 1

Potassium	179.55
Calcium	53.25
Iron	4.06
Zinc	2.00
Copper	1.30
Magnesium	99.0
Phosphorus	192

Taro flour contain different types of mineral that good for body such as potassium content in taro flour is 179.55, Calcium content in taro flour is 53.25, Iron content in taro flour is 4.06, Phosphorus content in taro flour is 192, Copper content in taro flour is 1.30, Zinc content in taro flour is 2, Magnesium content in taro flour is 99.[22].

Starch :

Taro starch has fine and small particle, so that it is highly digestible. In Hawaii and other pacific Island it used for the preparation of infant food. (Jane,1992). Starch comprises of 80% of amylopectin and 20% of amylose present in taro. Amylopectin contains 22 units of per molecule of glucose and amylose contain 490 units per

molecules of glucose. important sugar present in taro is Sucrose, also in less amount of fructose, maltose, glucose, raffinose present in taro. So it is use full for making bread for daily use. Malic acid (60%), followed by citric acid (25%), and oxalic acid (14%). [23]. The high level of carbohydrate present in taro powder and raw taro products.

Crude Fat:

Raw Taro flour contain low fat is 0.65% while cooked taro contains 0.13% fat. 10% taro flour give (5.0%). In wheat taro bread. Decreasing Fat content in bread it prevents and increase shelf life of bread. [24].

Crude Fiber:

The crude fiber increase in raw taro processed into powder and decrease when taro in cookies. Taro powder contain high fiber at 3.11% while taro cookies contain 0.27%. Therefore, it indicates that when we processed raw powder it contains higher amount of crude fiber. In bread with the increasing taro flour in wheat flour it will increase fiber content in bread. In control crude fiber (2.67%) present in bread, 5% taro flour give (2.75%), 10% taro flour give (2.92%), 15% taro flour give (3.14%), and 20% taro flour give (3.25%).

Crude Protein:

Taro have low protein content. Taro powder protein contains (8.07%). In control wheat flour have highest protein than taro-wheat composition. In control crude protein (36.79%), 5% taro wheat flour contain (34.29%), 10% taro wheat flour contain (33.33%), 15% taro wheat flour contain (32.34%), and 20% taro wheat flour contain (29.8%). It is clearly indicate that taro has poor source of protein.

Moisture:

Taro is root crop its moisture content is very high (FAO,1999). Raw taro powder contains high amount of moisture content is 6.54% while when we make taro-wheat flour. Its moisture content was reduce. Moisture content in taro ranges from 65-85% (Huang et al.,2007).

Total Ash:

Crude ash increase when raw taro convert into taro flour also decrease when baked. Taro is good source of mineral contents than wheat flour. When bread was prepared by taro-wheat flour bread it give high amount of ash as similar to wheat flour bread. The ash content present in taro range from 3.56-7.80%. (Nijoku and Ohia, 2007; Mbofung et al., 2006).

Iron:

Iron is good for health it maintaining blood level in body. Raw taro flour contains high amount of iron as compared to baked taro. Iron

present in taro higher than wheat flour. Highest iron content observed in 20% taro-wheat composite flour and lowest iron content observed in control wheat flour.

Potassium:

Taro roots contain high level of potassium that helps to maintain and control high blood pressure by breaking down into salt. This reduce stress and help to prevent development of chronic heart problem.

Calcium and Phosphorus:

Taro leaves contain 30 mg of calcium and 87.40 mg of phosphorus present in taro root as well as it contain vitamin A, vitamin C.

Vitamins:

Taro contains vitamin C and B complex (niacin, riboflavin, and thiamin) which are important to diet. Raw Taro powder contain high amount of Zinc, Iron and Calcium that is good for diet. Taro leaf contains beta carotene, folic acid, and iron which good for anemia patients. (FAO,1990).

II. CONCLUSION:

In this review paper investigation preferred taro and taro flour good for daily use food. With the increasing taro flour in wheat flour for making bread its increase starch value in flour that gives dark color after baking also give better nutritive value, physical properties, chemical properties, sensory and rheological properties. Taro starch has hypoallergenic nature and also wheat flour have gluten that not good for all people but taro gluten free so it was used by patients. Taro good for treat ulcer problem, pancreatic disease, chronic liver and gall bladder patients. Taro have good source of fiber and also increase taro in wheat flour it decreases crude fat that good for shelf life of bread. It improves rheological properties. Taro flour make the dough less resistant and slightly less viscoelastic.

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