

## **Designing symbol color for regional revitalization - A study of black in Kagoshima -**

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### **ABSTRACT**

This study aimed to propose the method of designing regional symbol color by means of objective colorimetry, for further revitalization of the local area.

Kagoshima prefecture, the target area of this study, is located at southern part of the Kyushu island. At the same time, it faces the problem of depopulation. Kagoshima has also been known for variety of famous black items such as Kagoshima Kurobuta (Kagoshima Berkshire pork), Kagoshima Kuroushi (Kagoshima black beef), and Kurozu (black vinegar). Therefore, we set 'black' as the symbol color of Kagoshima.

First, Kagoshima's black-color list was made by collaboration with the staff of Kagoshima PR Division in the local government. Selection of the item was done from the viewpoint of its identity and name recognition. As the results, twenty one items were selected. These came from many places throughout the prefecture and were categorized in four groups, foods, crafts, architecture and nature. Fifteen items were measured by the colorimeter (Konica Minolta CR-20 and CM-5) or perceptual measurement using the Munsell color chart. The results showed their hues were widely distributed from R to PB, revealing variety of 'black' in Kagoshima. Based on the colorimetric database, we hope to create 'Kagoshima's Black Palette', which would be utilized for regional revitalization of Kagoshima.

**KEYWORDS:** Regional Symbol Color, Place Branding, Kagoshima.

### **INTRODUCTION**

In order to create a sustainable society, local governments are trying to improve their place brands by various methods. Utilizing colors derived from regional features is actively performed for place branding. For example, Iwate prefecture expresses the image of regional resources included its richness and trust as 'gold'. Kumamoto prefecture promotes its attractions as 'red' which came from the agricultural, forestry and fishery products such as tomato, watermelon, beef, sea bream and so on. Toyama prefecture advertises its black color products as 'Toyama Black' represents ramen noodles in black soup, sea tangle and so on.

In this way, the reason why colors are used for community development is the possibility of a color effect that allows integration of images of various regional resources and differentiation from other regions (Hirata, et al. 2013). However, if color branding describing only color names is done in various places, similar colors may be used in duplicate among regions and there are liable to be hidden the uniqueness of each regions to customers. Hirata, et al. (2013) describes that successful cases of color guideline in landscapes formulates extraction and quantification of colors from each regional resource and be 'Meaning grant type'. There is a few research showing the possibility that regional symbol colors can contribute to sustainable communities economically, but color branding cases for comprehensive community development are limited, and the method cannot be said to have been established.

Therefore, this study aimed to propose the method of designing regional symbol color by means of objective colorimetry, for further revitalization of the local area. We decided the target region as Kagoshima prefecture, where is one of the urgent issues of regional revitalization.

## KAGOSHIMA PREFECTURE AND BLACK

Kagoshima prefecture, the target area of this study, is located at southern part of the Kyushu Island. It has a total area of approximately 9,187 kilometers and extends to the north and south about 600 km. There are diverse natural environments, such as remote island, volcanic, hot springs and so on. At the same time, it faces the problem of depopulation due to population leakage to urban areas. Major industries are livestock industry and agriculture, Kagoshima has also been known for variety of famous black items such as Kagoshima Kurobuta (Kagoshima Berkshire pork), Kagoshima Kuroushi (Kagoshima black beef) and Kurozu (black vinegar). Kagoshima prefecture, in order to promote the regional resources, the campaign has been carried out with the phrase of 'Kagoshima is Black' as a sales copy (Kagoshima prefecture, 2015 a).

According to a survey conducted for 800 men and women in their 20's to 60's in the Kanto region and the Tokai region, black related products such as Kagoshima Berkshire pork, Kagoshima black beef, black vinegar, Satsuma black chicken, Satsuma black cut glass, black Satsuma pottery and so on were ranked among the top an images of Kagoshima prefecture (Kagoshima prefecture, 2015 b). Also, as an image color of Kagoshima prefecture, black was chosen the first place and the images of the black were shown as luxury, high quality, delicious and so on. On the other hand, 'No' (63.9%) exceeded 'Yes' (36.1%) against the question about the recognition of prefectural products including 'black' in Kagoshima prefecture.

From these facts, in spite of Kagoshima prefecture has its black unique resources, they do not contribute to the improvement of regional brand of Kagoshima, because of the low recognition by customers outside of prefecture.

## EXPERIMENTAL

### 1. Kagoshima's black-color list

Based on Kagoshima prefecture (2015 a; 2015 b) and Makino (2017), we set to the symbol color of Kagoshima prefecture 'black'. We made Kagoshima's black-color list collaboration with the staff of Kagoshima PR Division in the local government from the viewpoint of its identity and name recognition. As the results, twenty one items were selected. These came from many places throughout the prefecture and were categorized in four groups, foods, crafts, architecture, and nature (Table.1).

*Table 1. Kagoshima's black-color list*

Category	No.	Item	Brief description
Foods	1	Kagoshima Berkshire pork	Kagoshima is a leading livestock producing prefecture in Japan and Kagoshima Berkshire pork is highly regarded by consumers for its superior quality.
	2	Kagoshima black beef	Japanese Black cattle from Kagoshima prefecture are the most numerous in Japan, and are marketed under the brand name 'Kagoshima black beef'.
	3	Satsuma black chicken	Known as one of 'Black Trio' which are Kagoshima Berkshire pork, Kagoshima black beef, and Satsuma black chicken.
	4	Satsuma black duck	New species born from industry-academic research and development with Kagoshima University.
	5	Pacific bluefin tuna	Kagoshima prefecture is famous for the leading Pacific Bluefin tuna farming.
	6	Black sesame oil	Black Sesame oil is used in dressings, meat, fish, tofu, sushi, sashimi, and so on. Very small amounts are required as the flavour of the best quality oils are very strong.
	7	Brown sugar	Comes from the juice of sugar cane that is harvested mainly on islands located south of Tanegashima Island and then boiled to produce solid brown sugar.
	8	Black vinegar	A product made from top-grade water, koji malt, and quality steamed rice that has been fermented over a long period of time outdoors in long rows of vases.
	9	Sweet soy sauce	Kagoshima's soy sauce is sweeter than common soy sauce in Japan, and the higher amount of glutamic acid contained.
	10	Black koji malt	One of the popular rice malt for making shochu (distilled spirit) in Kagoshima prefecture. Because it produces a large amount of citric acid, it can suppress spoilage by various bacteria.
Crafts	11	Black Satsuma pottery	The crafting of Satsuma ware began more than four hundred years ago, when Shimazu Yoshihiro brought potters back with him from Korea.
	12	Satsuma black kiriko cut glass	Chinese overlaying colored glass techniques were fused with European glass cutting methods to produce this delicate and graceful cut glass masterpiece.
	13	Oshima Tsumugi Silk	A plain woven silk fabric with pre-dyed scoured threads and is made to the dyed thread by dipping them in muddy water.
Architecture	14	Nishidabashi Bridge	A stone bridge built at the end of the Edo period.
	15	Tsubobatake	A traditional landscape of the making black vinegar.
	16	Hayato no kaze	A limited express service in Japan which runs between Kagoshima-Chūō Station and Yoshi Matsu Station.

Nature	17	Amami Rabbit	Dark-furred rabbit which is only found in Amami Oshima Island and Toku noshima Island
	18	Tsurumaru Onsen	
	19	Kuronoseto Strait	
	20	Kuroshima Island	
	21	Kuroshio Current	

## 2. Colorimetry of black resources

Fifteen items were measured by the colorimeter (Konica Minolta CR-20 and CM-5) or perceptual measurement using the Munsell color chart (figure 1). For the measurement, the most appropriate method was used depending on the properties of each object. In each case, the measurement spot was set at the site with the largest area of black, and one or more points were selected.

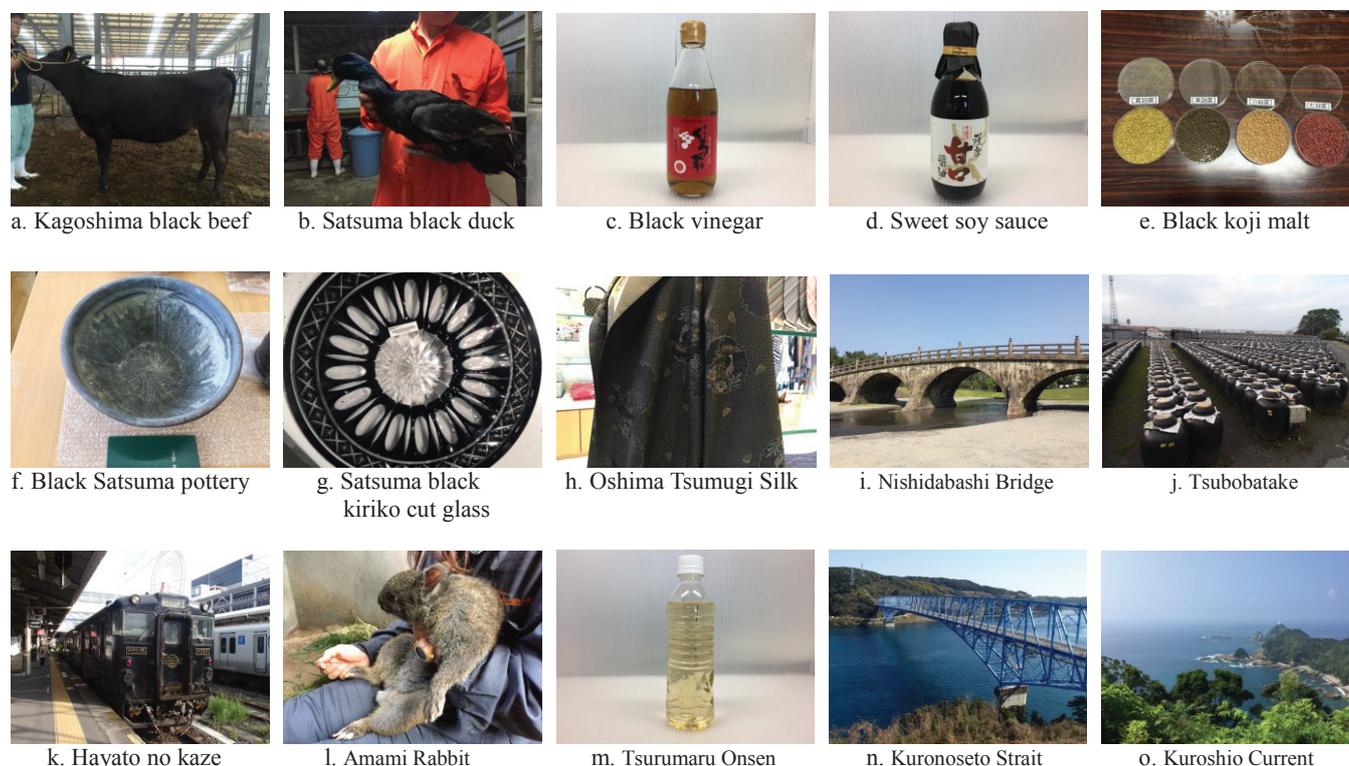


Figure 1. Fifteen items of Kagoshima's black-color list

## RESULTS AND DISCUSSION

The averages of Munsell hue, value and chroma of the 15 items are shown in the figure 2. The results showed four color types. The first type is represented by R to Y hue, less than 1 value and 1 chroma in the Munsell color system, such as Kagoshima black beef, Satsuma black duck, Black vinegar, Sweet soy sauce, Oshima Tsumugi Silk, and Amami Rabbit. The second type is represented by BG to PB hue, less than 1 value and 1 chroma, such as Satsuma black kiriko cut glass, Hayato no kaze, and Tsubobatake. The third type is represented by YR to Y hue, more than 1 value and 1 chroma, such as Black Satsuma pottery and Nishidabashi Bridge. The fourth type is represented by B to PB hue, more than 1 value and 1 chroma, such as Kuronoseto Strait and Kuroshio Current. These indicates that their hues are revealing variety of 'black' in Kagoshima and divided into four color types. It is possible that they come from the color of living things, chemical painted products, rocks, and oceans.

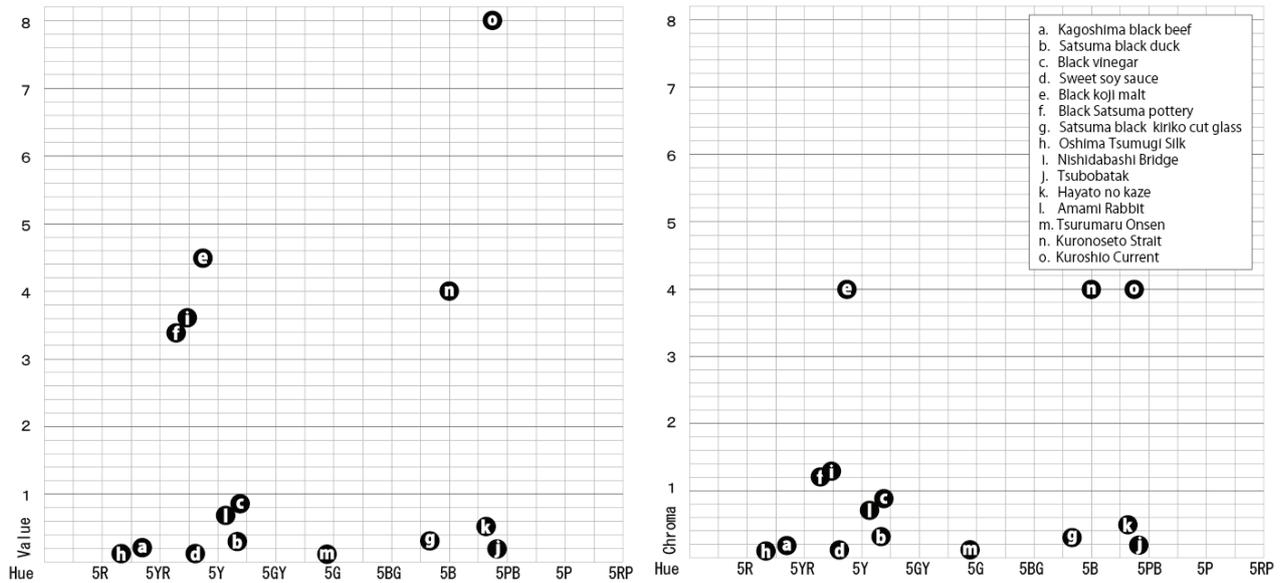


Figure 2. The average of Munsell hue, value and chroma of the 15 items

### CONCLUSION

We set ‘black’ as the symbol color of Kagoshima and fifteen items of Kagoshima’s black-color list were measured. The results indicates that their hues are revealing variety of ‘black’ in Kagoshima and divided into four color types. Based on the colorimetric database, we hope to create ‘Kagoshima's Black Palette’, which would be utilized for the package design of local products, sightseeing brochures, guide signboards and regional revitalization of Kagoshima.

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