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The advanced method of sangju silk by natural dyeing

- Gyeolmyeongja, Billang, Pine bark -

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1. INTRODUCTION

Table 1. The name of dyeing materials on the Sangju silk

No	Plant Material	Scientific Name
1	Gyeolmyeongja	Cassia obtusifolia L.
2	Billang	Areca Catechu L.
3	Pine Bark	Pinus densiflora

1.1The efficacy of Gyeolmyeongja

It should be used when eyes red, ache, tear and dizzy because of liver febrile. moreover, if it is used commonly, it protects eyes and recovers eyesight.

1.2 The efficacy of Billang

The main components seeds include 0.4% Alcaroid which is the principle ingredient is Alecolin. Moreover it has Arecaidin, gubacolin and gubasin. So, That has 16% oil.Half of oil is including Meristin and Alorain.

1.3 The efficacy of Pine bark

Pine needles are bitter, warm character and nontoxic. A resent study found that it promotes oxidation-reduction function in a living body and heals inflammation and bleeding in China and North Korea.

2. EXPERIMENTAL

In the case of experiment with Gyeolmyeongja, Billang, Pine bark a sample of silk was dyed for 15minutes at 40～60℃ in a bath containing 20L water and 700g of goods for 60minutes was applied after that 3-5% of mordants was added.

3. RESULTS AND DISCUSSION

Table. 2 The Lab index of Gyeolmyeongja(Cassia obtusifolia L.) Dyeing

Gyeolmyeongja Dyeing										
Mordant		alum			Cu			Fe		
Textile	Repeat	L	a	b	L	a	b	L	a	b
Rayon	1	82.2	1.9	14.5	77.2	1.4	14.5	76.6	0.4	12.2
	2	79.9	3.8	16.1	72.8	4.0	15.5	74.0	0.6	12.0
Silk	1	64.2	11.0	26.7	56.7	6.7	17.9	51.6	-0.9	12.6
	2	59.9	12.2	26.5	51.3	6.0	15.9	40.0	-0.8	8.9
Doupion	1	93.7	10.1	26.1	53.1	6.9	14.4	50.9	-0.6	9.5
	2	53.7	13.2	19.1	44.8	3.7	8.0	43.9	-1.4	4.1
Cotton	1	78.9	4.1	14.6	73.3	3.1	12.5	70.8	-0.1	11.5
	2	74.6	5.8	15.2	65.2	4.9	12.7	63.3	0.1	12.8
Hemp	1	72.1	6.2	17.7	66.5	1.8	15.3	60.9	1.3	14.5
	2	69.6	7.5	20.6	62.4	3.1	14.9	55.4	0.3	10.7

Table. 3 The Lab index of Billang(Areca Catechu L.) Dyeing

Billang Dyeing										
mordant		alum			Cu			Fe		
Textile	Repeat	L	a	b	L	a	b	L	a	b
Rayon	1	79.6	3.8	12.6	70.3	3.8	11.3	66.8	0.9	7.5
	2	73.2	6.8	14.7	60.6	9.8	11.6	62.2	2.0	6.9
silk	1	70.5	6.4	13.8	51.6	6.9	9.9	47.8	-1.4	1.9
	2	63.8	8.7	15.5	45.5	9.1	8.4	44.6	-0.5	1.5
Doupion	1	58.5	10.3	15.4	44.7	4.3	6.0	44.1	-2.5	1.7
	2	52.3	9.5	12.1	41.4	2.9	3.6	41.6	-1.9	1.5
Cotton	1	79.0	4.3	10.9	68.2	4.1	10.3	63.1	0.5	6.2
	2	69.3	7.2	13.7	55.4	9.9	11.3	57.7	1.6	5.8
Hemp	1	75.6	4.1	15.1	62.7	2.7	12.6	56.4	-0.7	8.2
	2	63.6	8.8	15.3	52.6	9.0	10.8	57.5	-0.1	5.9

Table. 4 The Lab index of Pine Bark(Pinus densiflora) Dyeing

Pine Bark Dyeing										
Mordant		alum			Cu			Fe		
Textile	Repeat	L	a	b	L	a	b	L	a	b
Rayon	1	65.3	7.1	24.4	60.4	4.6	13.9	56.4	1.0	8.8
	2	65.7	6.9	23.3	58.2	6.0	14.5	57.1	0.3	8.9
Silk	1	57.2	8.7	27.9	47.5	4.9	14.3	42.6	-2.0	5.6
	2	54.8	9.4	27.6	45.4	5.5	12.3	40.1	-2.1	4.0
Doupion	1	45.6	7.5	9.3	42.5	0.2	2.9	42.2	-2.4	1.9
	2	44.4	4.6	6.0	39.8	-0.5	2.3	38.2	-2.6	1.5
Cotton	1	64.1	6.5	22.9	59.0	4.6	13.0	53.3	-0.3	8.6
	2	63.6	5.9	22.3	55.7	5.8	13.9	54.4	-0.3	7.9
Hemp	1	62.6	6.4	29.0	56.1	3.7	13.7	46.3	-1.5	6.4
	2	59.2	7.9	24.9	52.2	4.4	10.6	50.1	-1.8	6.1

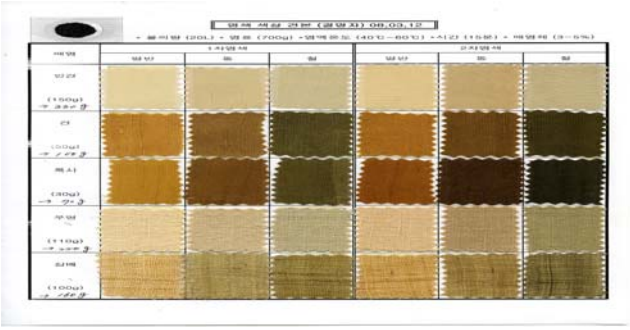

Fig.1 The photograph of Gyeolmyeongja (Cassia obtusifolia L.) Dyeing

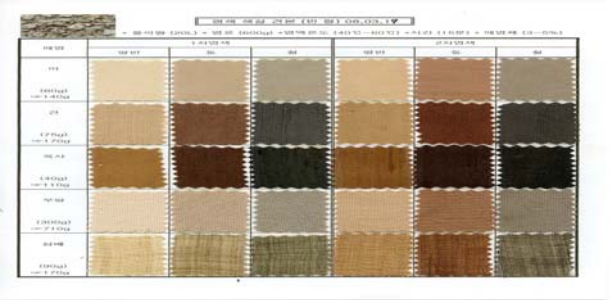

Fig.2 The photograph of Billang(Areca Catechu L.) Dyeing

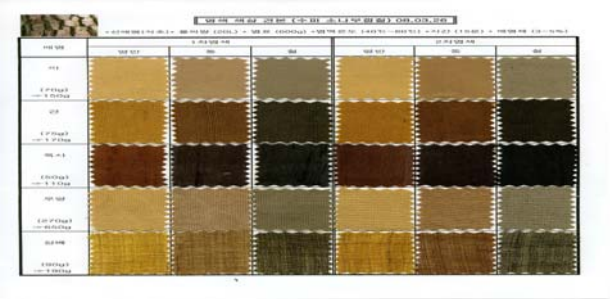

Fig 3. The photograph of Pine Bark(Pinus densiflora) Dyeing

4. CONCLUSION

Sangju city is famous for the three white (rice, silk and cotton). To make a higher value-added business with the Sangju silk, in this experiment used Oriental medicines for dyeing. As a result of these experiments, there are two main important possibilities for this.

1. The dyeing experiment of using Gyeolmyeongja, Billang and Pine bark on the Doupion, Silk and Hemp were intensive colours with good fastness properties orderly. The second dyeing experiments performed better fastness properties then the first dyeing experiments.

2. The use of Alum, Cu and Fe mordants improved orderly the fastness properties in the dyeing experiment of using Gyeolmyeongja, Billang and Pine bark.