

Introduction

- ❖ The fried chicken skin gets its inspiration from South Asian snack called papadam.
- ❖ The objective was to develop a method to produce a fried chicken skin snack and to determine differences between chicken skin from thighs and breasts.

Materials & Methods

Ingredients: Chicken Skin, Black Pepper, Salt, Peanut and Vegetable Oil

- ❖ Chicken thighs and whole chickens were acquired from a local grocery store in Manhattan, KS.
- ❖ Chicken skin was removed from breast portions (BP) of three birds and thigh portions (TP) from eight thighs and frozen to enable easy excess fat removal.
- ❖ Chicken skin were cut into 2 × 2" pieces (Figure 1) and blanched in boiling water for 20 s and placed in cold running tap water.
- ❖ Salt and black pepper added at 0.25 g on both sides of the skin.
- ❖ Parchment paper was placed below and on top of skin, set on a baking sheet with another sheet positioned on top to reduce skin curling and baked at 121 °C for 10 min.
- ❖ Chicken skin portions were then frozen again and fried at 192 °C for 3 minutes.
- ❖ Initial skin thickness was measured with a digital caliper and weight loss were measured for each processing step (Figure 3).
- ❖ Color, texture, water activity, nutrition analysis, and a consumer preference test were conducted on the fried BP and TP portions (Figures 7-9).

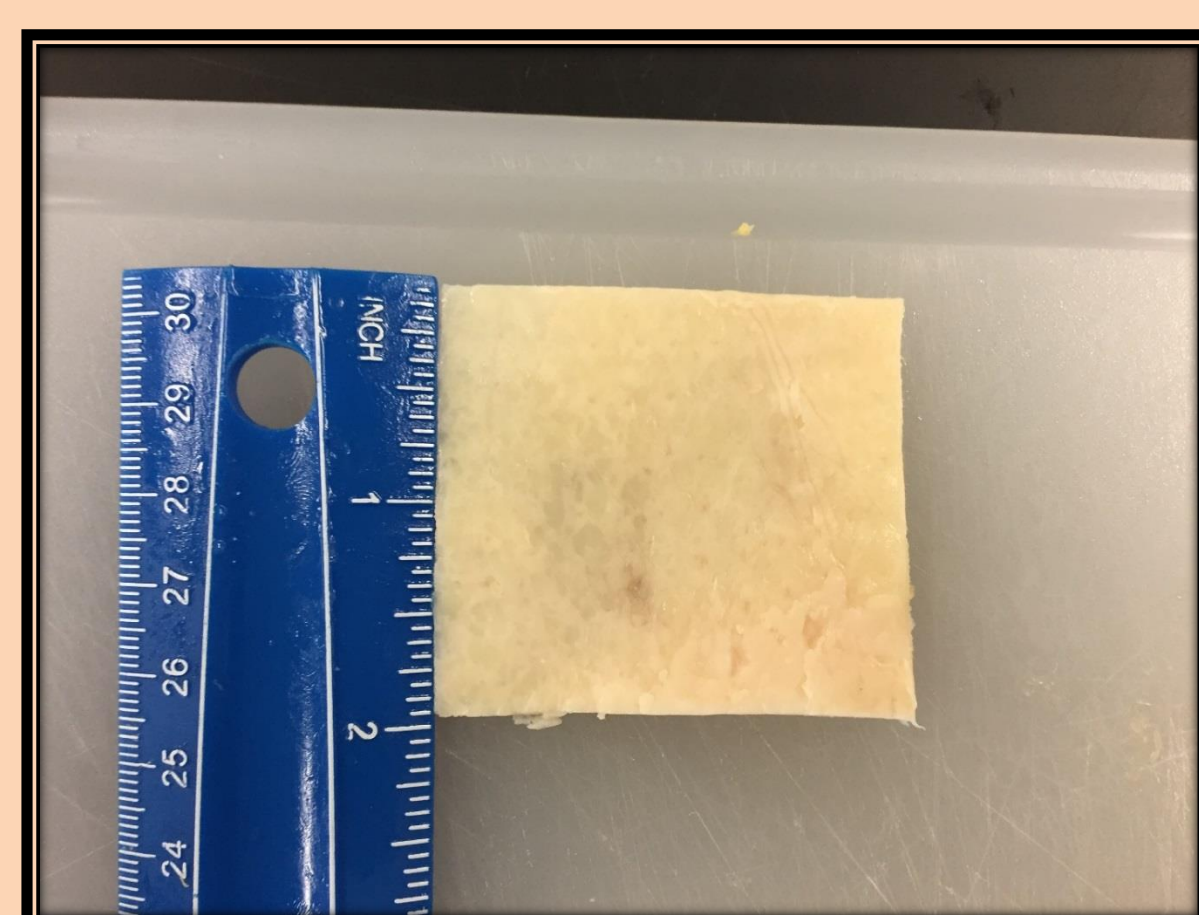


Figure 1 Frozen BP chicken skin after scaling

Results

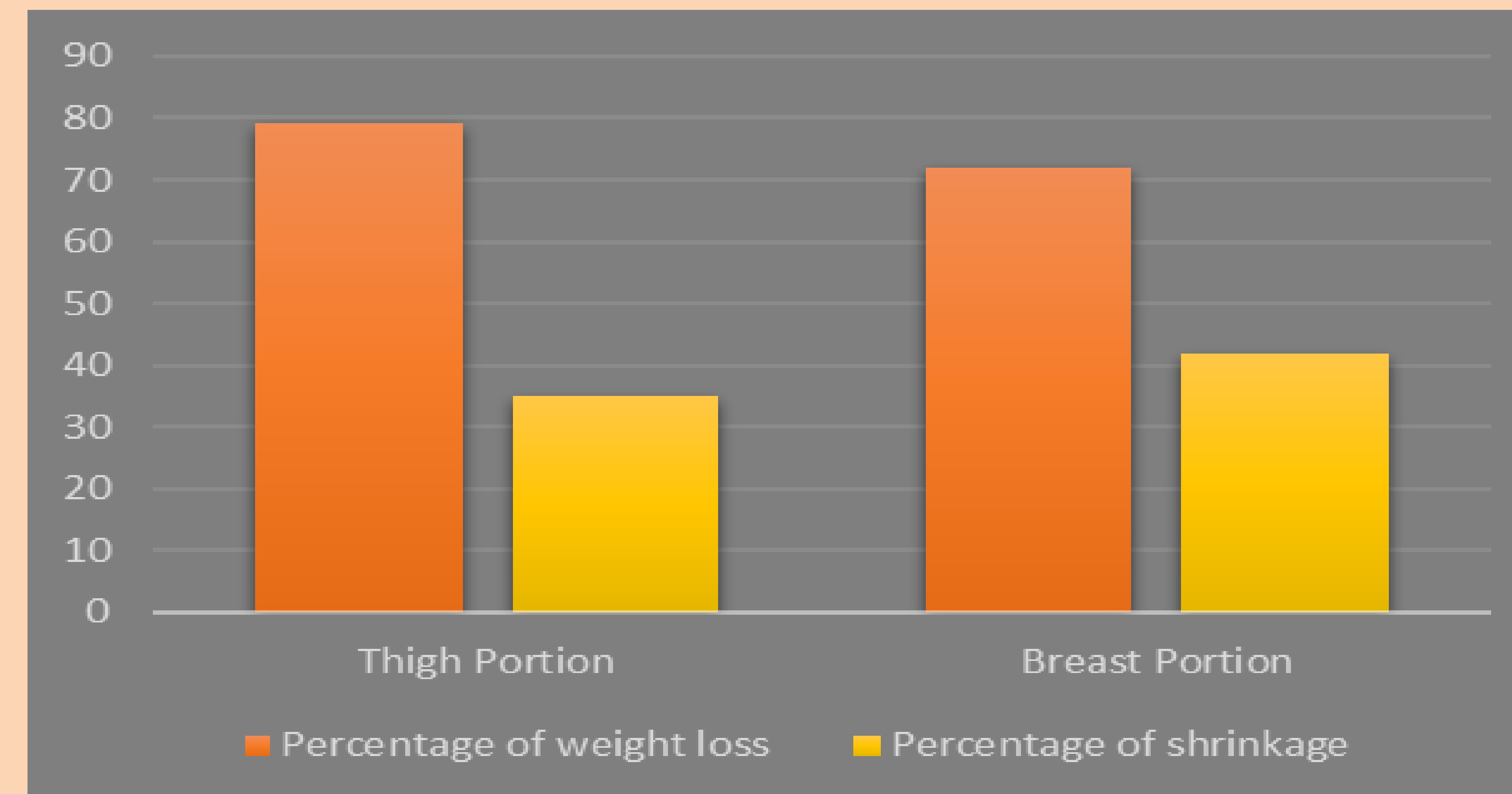


Figure 3. Percentage of average weight loss and shrinkage (BP:n=12, TP: n=11)

Breast Portion	0.425
Thigh Portion	0.543

Figure 4. Water activity of the fried chicken skin

Nutrition Facts	
Serving size	23 pieces (30g)
Amount per serving	
Calories	100
% Daily Value*	
Total Fat 5g	6%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 1270mg	55%
Total Carbohydrate 2g	1%
Dietary Fiber 0g	0%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 11g	
Vitamin D 0mcg	0%
Calcium 23mg	2%
Iron 1mg	6%
Potassium 123mg	2%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Figure 5 . Nutrition facts of fried chicken skin from breast portion

Nutrition Facts	
Serving size	23 pieces (30g)
Amount per serving	
Calories	110
% Daily Value*	
Total Fat 7g	9%
Saturated Fat 2g	10%
Trans Fat 0g	
Cholesterol 85mg	28%
Sodium 1330mg	58%
Total Carbohydrate 3g	1%
Dietary Fiber 0g	0%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 8g	
Vitamin D 0mcg	0%
Calcium 20mg	2%
Iron 1mg	6%
Potassium 143mg	4%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Figure 6. Nutrition facts of fried chicken skin from thigh portion

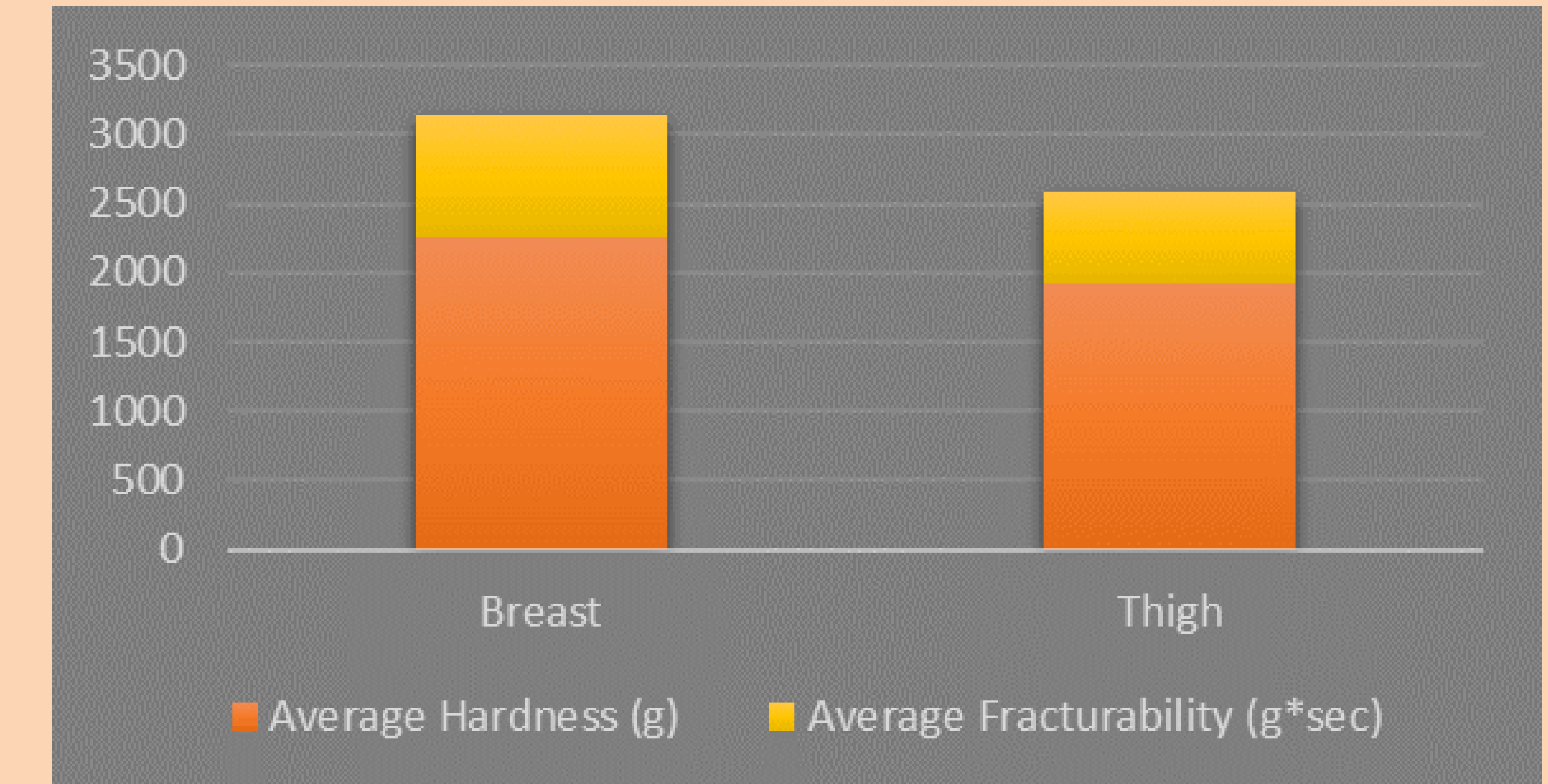


Figure 7. Texture profile analysis (BP: n=3, TP: n=3)

Fried Skin	L	a*	b*
Breast	55.92± 2.5	7.92± 1	29.33± 3
Thigh	54.50± 2.1	9.97± 1.9	33.21± 2.4

Figure 8 Color analysis (BP: n=4; TP: n=4)

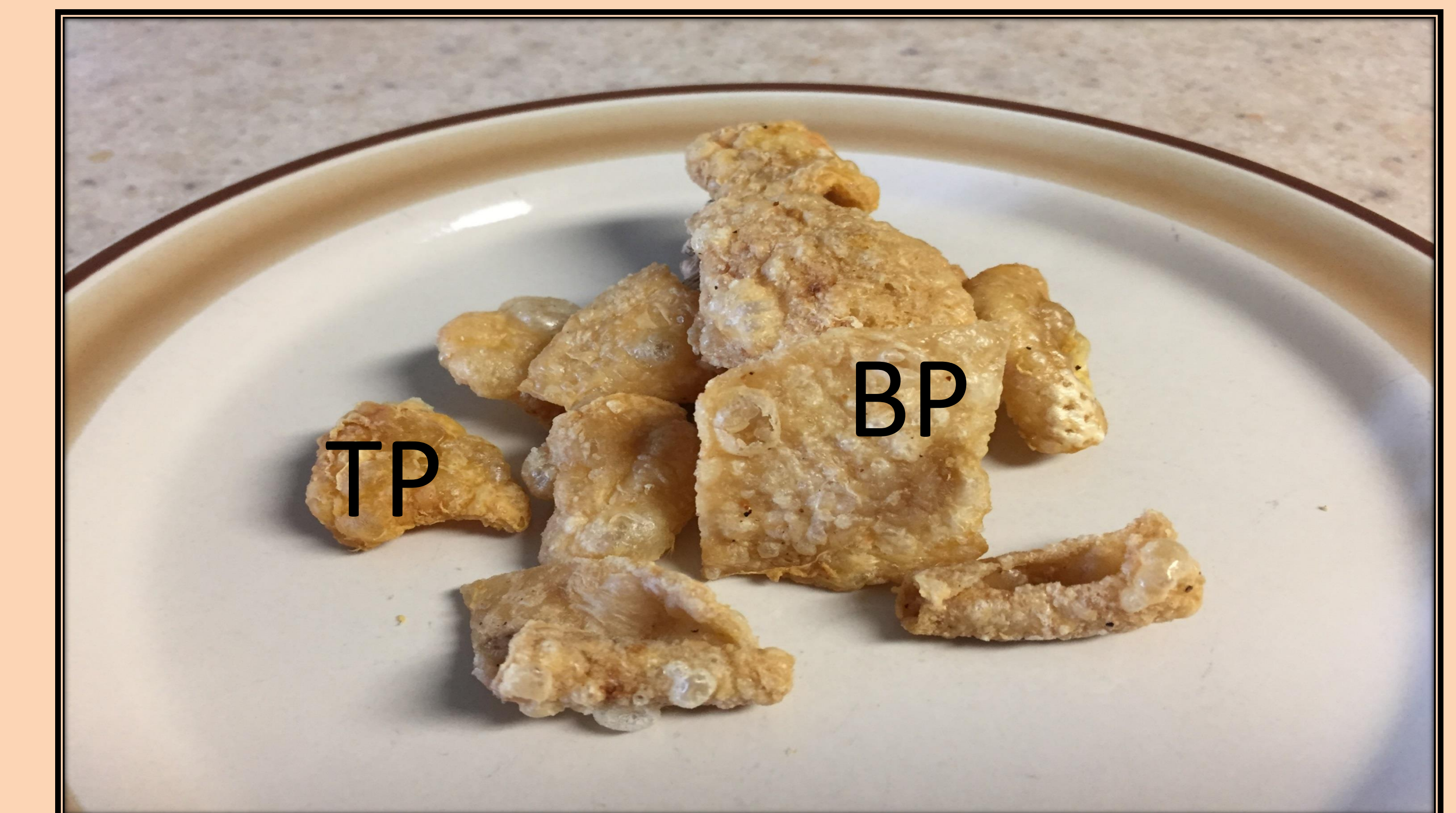


Figure 9. Sample of fried chicken with thigh (TP) and breast (BP) portions

Conclusion

A method for processing TP and BP skin was developed that produced a crispy, fried chicken skin. Overall, the TP skin had a better yield and was preferred over BP skin