

# Pork Rind Production

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## I. INTRODUCTION

Raw pork skins can be converted into products that have several commercial applications. Pork skin is the raw material in three main edible products; pork rinds, gelatin (used in food products) and pork skin fat emulsion (used in some sausages and cosmetics). Pork skin can also be tanned into leather. The term pork rind is sometimes incorrectly used to include other non-pork skin edible products. In the meat industry it is often stated that “all of a pig carcass is utilized except the squeal” and the pork rind industry is proof of this adage. This paper will focus on the pork skin and its conversion into an edible food snack which is sometimes also used as an ingredient in other dishes.

## II. MATERIALS AND METHODS

After the pig is harvested, the skin is cut into pellet size (~ 3 inch square) pieces, dried with mild heat and then frozen. The production of pork rinds is usually described as a two-step system. In the first step the pellets are rehydrated in water containing flavoring including salt and spices, and sometimes liquid smoke. This flavoring varies significantly with processors and has a major influence on the final flavor and popularity of the product. The processors frequently make a variety of flavors depending on the ethnic market they are trying to capture. The second step is frying in pork fat at 392–410°F (200-210°C). Frying makes the rinds expand or puff and float on the oil surface. The rinds are then removed from the fat, and may be flavored again and air dried. Antioxidants may also be added to improve stability.

Since there are so few pork rind producers, there is no standardized equipment design. This requires the processors to build their own equipment. The equipment design often determines the quality of the final product.

## III. RESULTS AND DISCUSSION

Fresh skin (10-15 square feet/pig) has the following Composition (Table 1)

Table 1 Composition of raw pork skin

Item	Composition
Moisture	54-60%
Fat	25-30%
Protein	12-13%
Minerals	0.26-0.30%

Ohio, USA has one of the world’s largest pork rind producers, Rudolph Foods which has been in business more than six decades. The primary author consulted with them for several years. Therefore, their production system is confidential as is the case for a majority of such processors. There are many recipes for pork rinds depending on the manufacturer, equipment used, flavoring, processing systems and market conditions. Ohio also has a Pork Rind Festival. Pork rind consumption in the U.S. is most popular in the southern states. Pork rinds are also very popular in Mexico, where they are known as chicharrón.

Typical nutritional value of finished product is shown in Table 2. However, the composition will vary depending on the raw material and the flavoring added during the production.

Table 2 Nutritional value of finished product

Item (Serving size 14g)	Amount per serving	Percentage of Daily Value
Calories	80 cal	5%
Calories from Fat	45 cal	7%
Saturated Fat	2g	12%
Trans Fat	0g	
Cholesterol	20mg	7%
Sodium (can vary by salt added during flavour addition)	270mg	12%
Carbohydrates (different from most snack items)	0g	0%
Potassium	0mg	0%
Added Sugars (varies with flavouring)	0mg	0%
Sugars	0mg	0%
Protein	9g	19%
Vitamin A	0µg	0%
Vitamin C	0µg	0%
Calcium	0mg	0%
Iron	0mg	0%

#### IV. CONCLUSION

Each processing system is different due to equipment design, raw materials used, processing systems and flavoring which results in finished products that vary in color, texture and flavor. Pork skins are converted into both edible (e.g. pork rinds) and inedible (e.g. dog chew and leather) products.



Figure 1. Pork rinds (spicy flavor on left, regular on right)

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