



SNS COLLEGE OF TECHNOLOGY



COIMBATORE-35

19FTE302 Technology of Snack and Extruded Foods

UNIT –II

POTATO AND RICE BASED SNACKS

INTRODUCTION

Potato chips are thin slices of potato, fried quickly in oil and then salted.

According to snack food folklore, the potato chip was invented in 1853 by a chef named George Crum at a restaurant called Moon's Lake House in Saratoga Spring, New York. Angered when a customer, some sources say it was none other than Cornelius Vanderbilt, returned his french fried potatoes to the kitchen for being too thick, Crum sarcastically shaved them paper thin and sent the plate back out. The customer, whoever he was, and others around him, loved the thin potatoes. Crum soon opened his own restaurant across the lake and his policy of not taking reservations did not keep the customers from standing in line to taste his potato chips.

The popularity of potato chips quickly spread across the country, particularly in speakeasies, spawning a flurry of home-based companies. Van de Camp's Saratoga Chips opened in Los Angeles on January 6, 1915. In 1921, Earl Wise, a grocer, was stuck with an overstock of potatoes. He peeled them, sliced them with a cabbage cutter and then fried them according to his mother's recipe and packaged them in brown paper bags. Leonard Japp and George Gavora started Jays Foods in the early 1920s, selling potato chips, nuts, and pretzels to speakeasies from the back of a dilapidated truck.

The chips were commonly prepared in someone's kitchen and then delivered immediately to stores and restaurants, or sold on the street. Shelf-life was virtually nil. Two innovations paved the way for mass production. In 1925, the automatic potato-peeling machine was invented. A year later, several employees at Laura Scudder's potato chip company ironed sheets of waxed paper into bags. The chips were hand-packed into the bags, which were then ironed shut.

Potato chips received a further boost when the U.S. government declared them an essential food in 1942, allowing factories to remain open during World War II. In many cases, potato chips were the only ready-to-eat vegetables available. After the war, it was commonplace to serve chips with dips; French onion soup mix stirred into sour cream was a perennial favorite. Television also contributed to the chip's popularity as Americans brought snacks with them when they settled before their television sets each night.

In 1969, General Mills and Proctor & Gamble introduced fabricated potato chips, Chipos and Pringles®, respectively. They were made from potatoes that had been cooked, mashed, dehydrated, reconstituted into dough, and cut into uniform pieces. They further differed from previous chips in that they were packaged into breakproof, oxygen-free canisters. The Potato Chip Institute (now the Snack Food Association) filed suit to prevent General Mills and Proctor & Gamble from calling their products chips. Although the suit was dismissed, the USDA did stipulate that the new variety must be labeled as "potato chips made from dried potatoes." Although still on the market, fabricated chips have never achieved the popularity of the original.

Today, potato chips are the most popular snack in the United States. According to the Snack Food Association, potato chips constitute 40% of snack food consumption, beating out pretzels and popcorn in spite of the fact that hardly anyone thinks potato chips are nutritious. Nonetheless, the major challenge faced by manufacturers in the 1990s was to develop a tasty low-fat potato chip.

Raw Materials

Even though Earl Wise started his business with old potatoes, today's product is made from farm-fresh potatoes delivered daily to manufacturing plants. The sources vary from season to season. In April and May, potatoes come from Florida; June, July and August bring potatoes from North Carolina and Virginia; in the autumn months, the Dakotas supply the majority of potatoes; during the winter, potato chip manufacturers depend on their stored supplies of potatoes. Stored potatoes are kept at a constant temperature, between 40-45°F (4.4-7.2°C), until several weeks before they are to be used. They are then moved to a reconditioning room that is heated to 70-75°F (21.1-23.9°C). Size and type are important in potato selection. White potatoes that are larger than a golf ball, but smaller than a baseball, are the best. It takes 100 lb (45.4 kg) of raw potatoes to produce 25 lb (11.3 kg) of chips.

The potatoes are fried in either corn oil, cottonseed oil, or a blend of vegetable oils. An antioxidizing agent is added to the oil to prevent rancidity. To further insure purification, the oil is passed through a filtration system daily. Salt and other flavoring ingredients, such as powdered sour cream and onion and barbecue flavor, are purchased from outside sources. Flake salt is used rather than crystal salt. Some manufacturers treat the potatoes with chemicals such as phosphoric acid, citric acid, hydrochloric acid, or calcium chloride to reduce the sugar level, and thus improve the product's color. The bags are designed and printed by the individual potato chip manufacturer. They are stored on rolls and brought to the assembly line as necessary.