

# Remembering our Past and How it Affected Our Present and Future

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## ABSTRACT

Howard Valentine worked for Texas Instruments, Columbian Peanut, ADM, Golden Peanut Company, and from 1997 to 2018 as Director of Science and Technology for the American Peanut Council. He was the Executive Director for the Peanut Foundation from 1997 to 2016 and held several other industry positions including chair of multiple committees: Research Committee for the Southeastern Peanut Shellers Association, the Multi-crop Aflatoxin Working Group, the Research Committee and Peanut Quality Improvement Committees for the National Peanut Council. Howard became an APRES fellow in 2013, received the Coyt T. Wilson and the American Peanut Council Lifetime Achievement award in 2015, and received the Peanut Foundation Peanut Research and Education Award in 2018. Howard is married to his wife, Debra, and has two children, William and Ann. This is his speech to commemorate the 50th anniversary of APRES.

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Key Words: Peanut history, peanut shelling

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Thank you for being willing to sit and listen to me talk about peanut history. No, I was not here when peanuts were first grown. I asked Dr. Corley Holbrook when he asked me to give this talk, why did you pick me? In response he stated because you are the oldest guy in the audience.

Let us talk about the history of peanuts in general. Thanks to the Peanut Genome Initiative (Ozias-Akins 2013; Dash *et al.* 2016; Bertoli *et al.* 2016), we know more about peanuts and their origin now, than we did many years ago. Charles Simpson probably already knew this before we discovered it genetically, but peanuts originated thousands of years ago, in South America. Two wild species *Arachis ipaensis* (Krapov. And W.C. Gregory) and *A. duranensis* (Krapov. And W.C. Gregory) combined together somewhere around 8,000 to 10,000 yr ago to form the tetraploid that is known today as commercial peanut. That was quite a spontaneous combination, and a lot of

things have been created spontaneously in the past, but those of us who are in the peanut industry are very happy that 8,000 to 10,000 yr ago, the peanuts decided to get together and make a family out of it.

How did the peanut get from South America to Ivor, VA where the first commercial crop of peanuts was planted in the late 1800s? Obviously, peanut was grown and eaten primarily as animal feed in central South America (NPB 2019 A). The plant was picked up by traders, either of Portuguese or Spanish origin, because of their invasions of these areas of the world, and taken to Africa as part of their trading cycle. From Africa most of the trading ships picked up slaves that were then brought to the US. Slaves were often fed peanuts because peanuts were not perishable and could make the long ocean journey. Peanuts wound up in the VA area because of the slave trade in that area, with some in the northern counties of NC.

If traveling highway 460 near the Virginia Diner in Ivor, look for a plaque stating that the first commercial crop of peanuts grown in the US was grown in this field. Bacon's Castle claims to have been in the commercial peanut planting business since the late 1600s, so maybe that is where the first peanuts were planted. We moved from there to what made the peanut become edible by humans. Several people have noted, including the person who gave a tour at Bacon Castle, that peanuts were used for hog feed, and I am glad the market changed. We would not have APRES or the industry today, if peanuts remained animal feed alone.

The US Civil War was a big factor in changing peanut use; until then it was a Southern crop grown for pigs' feed. The soldiers needed food that did not spoil and that they could carry. They needed protein, to sustain their long arduous tours of duty, and peanut became part of their diet. Peanuts also became part of the diet of the Northern soldiers as well. So, the US Civil War essentially helped spread the use of peanuts as a snack food. In the mid-to-late 1800s, circuses became a common attraction in the US. Roasted peanuts were one of the only snacks sold that you could carry into the tent and watch the show. Likewise, baseball became a place where you could always buy roasted peanuts, in-shell in most cases.

In the 1890s, George Washington Carver began peanut research at Tuskegee University (Anonymous, 2019). So, we might say that the origin of

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our research society was at Tuskegee. Dr. Carver developed over 300 uses for peanuts, including peanut oil and flour. We often think we just discovered that 15 to 20 yr ago, but it was discovered by Dr. Carver. In the late 1890s and early 1900s we also had the development of peanut butter, but who made this discovery is still debated.

One story is that it was a pharmacist in Texas who for his elderly patients, clients, developed a ground peanut to have something they could eat with their very bad teeth. Dr. John Kellogg at the Kellogg Institute is also credited for developing peanut butter in the late 1890s along with his brother. So there was peanut butter developed in two different places for essentially the same reason, a way to get nutrition to people (NPB 2019 B).

Amedeo Obici, an Italian immigrant, noted that people were enjoying roasted peanuts. He added a peanut roaster to his Pennsylvania fruit stand business, and then added a horse and cart to reach more customers. By 1906 Amedeo partnered with Mario Peruzzi, who had developed a method to remove the skins from roasted peanuts. That partnership led to Planters Nut and Chocolate Company®. Their first plant was built in Suffolk, Virginia, in 1913. In 1916, school children of Suffolk helped in designing a character to represent their product - Mr. Peanut®.

The expansion of the peanut industry had another helper - the boll weevil (*Anthonomus grandis* Boheman), which devastated the cotton (*Gossypium hirsutum* L.) crop in the late 1800s and early 1900s. Farmers needed something to grow that the boll weevil would not destroy. So, this misfortune assisted our industry and it expanded, probably influencing it as much as Dr. Carver did with his efforts. In fact, the boll weevil is so infamous/famous that the city of Enterprise, AL erected a monument to it.

Fortunately, the Library of Congress keeps several pictures about the early years of peanut growing, and peanut planting. There are pictures of planters pulled by mules and humans. In the early US peanut production there was not a lot of mechanization, most plants were hand dug at harvest. Mechanized peanut diggers were not available until the late 1800s to early 1910s, and the peanuts were basically pulled off the line by hand and usually put into burlap bags.

Drying peanut was done by laying them on the ground with the vines still attached, which later developed into the concept of stacking peanuts. Based on some of the research by the National Peanut Laboratory at Dawson GA, it is known that stacked peanuts continued to mature because they had the vine attached, with the most flavorful

peanuts coming from stacks (Sanders *et al.*, 1997). All the flavor tests run over the years, going back to the mid 1970's, indicated that stacked peanuts really do have the best flavor. Mechanized stacking of peanut plants has not been accomplished. Most farmers did not sell peanuts until they needed money, and then they would go to one of the shellers who would offer them money. My father was a peanut buyer and we would go out to the field. This was a real scientific method of determining grade, but he would go in there, go to feel the stacks, pull peanuts out from the inside. He would shake the peanuts to see if they would rattle in the hull; if they rattled, he would give them a lower price, if they didn't rattle, he would give them a higher price. That was one way buyers would determine price, in the \$0.33 to \$0.44 kg<sup>-1</sup> (\$0.15 to \$0.20 lb<sup>-1</sup>) range, and not profitable for farmers.

Development of early products was the other thing that began to expand the demand for peanuts. The 1920s and 1930s saw a great increase particularly in peanut candy. In 1923 the Baby Ruth® candy bar production line was introduced, owned at that time by Curtis Candy Company, but since owned by many different companies; Nestlé now does the production. Mr. Goodbar® by the Hershey company was introduced in 1925. Reese's Peanut Butter Cups® were developed in 1928 by Mr. Reese in Hershey, Pennsylvania. It is said he was married to one of Mr. Hershey's daughters, although this could not be substantiated; but having visited Reese's Peanut Butter Cup®, which is now owned by Hershey, that is a likely possibility. Snickers® candy bar was introduced in 1930 and Payday® in 1932. Planter's Peanut Company® introduced the blue can, the cocktail peanuts, all virginia peanuts at that time, no runners, no spanish, and that became their best seller; that is really what founded their business and allowed it to grow. The blue can, along with metal containers used for some early peanut butters, introduced in 1920, were used after the peanuts were eaten out of them, for kids to take their lunch to school in a multipurpose container.

The first reference to a peanut shelling plant was in 1879 when Mr. Henry Loomus built a plant in, of all places, Philadelphia, PA. Well, he may have decided quickly that his raw materials were a long way from Philadelphia. He was trucking all the peanut hulls and everything else that came with the peanut all the way to Philadelphia to process, then distribute, so he decided to move his shelling equipment to Suffolk, VA, becoming Loomus Peanut Company. In 1896 Columbia Peanut Company, who was the first company I worked for in the peanut business, was formed at Norfolk,

VA. They operated until 1981, when they became part of ADM, which merged with Goldkist and formed the Golden Peanut Company. Golden Peanut Company has the longest heritage of peanut shelling, if you look at their predecessors. At the same time their major competitor today was formed in 1916 by Mr. Harvard Birdsong in Suffolk, VA to compete with Mr. Loomus, who had the other shelling plant. Suffolk was the capital of the peanut processing, as most peanut production was in NC and VA. In the 1940s, a peanut shelling plant would usually have at least forty people on tables picking foreign materials and damaged peanuts out of the shell as they came through. They bought the peanuts from the growers in burlap bags that the farmers all stenciled their names, so they could reclaim the peanuts if they decided they wanted to sell them later. Shellers would hold peanuts in warehouses and then they would pay the farmer as they needed them, and dump the burlap bags filled with in-shell peanuts, into the shelling operation.

They had some type of gravity separator that was basically a table that had air flowing through the bottom that lifted the peanuts just a little bit after they were shelled and helped separate the unshelled peanuts from the shelled peanuts. Every bag was a different weight and they'd fill the bags to the brim and hand sew them across the top. They would put five bags full of peanuts on a hand truck and then weigh it on a scale, go dump the bags in the warehouse, come back and reweigh the empty cart and bags, and calculate the peanut weight. Until 1972 the standard of the US shelling business, was uneven weight bags. When they shipped peanuts in truckloads or carloads, none of the weights were exactly the same. It was not until the 1970s, with the advent of the export business, that standardized weights were established.

Peanut production in the 1920s and 1930s, used a lot of mule drawn planters and diggers. As mentioned, the peanuts were stacked on a pole to cure after digging. The thing you had to remember when you went to pull peanuts out of the middle of the stack was to look out for snakes because snakes loved peanuts stacks - as did mice and rats. The first mechanized peanut pickers were stationary, operated off the power drive of the stationary tractor using a long belt. The stakes of peanuts would be hand loaded into the picker and then the picker would remove the pods from the vine, and the pods would fall into a bag.

In the 1940s and 1950s the peanut industry really started growing. The Planters Peanut Company® opened stores all over the US, particularly

on the East coast, selling all kinds of peanut products that they produced. Peanut M&Ms® were first introduced in 1954, 5th Avenue® candy bar in 1956. Mr. W. T. Young, who for many years came to the APRES meetings, invested in a company in Lexington, KY called Big Top Peanut Butter. Big Top Peanut Butter® was later bought by Procter and Gamble Company and it became Jif Peanut Butter® in 1958.

In 1950s and into the 1960s, some peanut farmers were still stacking. A lot of the equipment was still fairly rudimentary, but becoming more mechanized, which helped growers produce more hectares, and higher quality products came out of the field for the shellers to buy. Growers still bagged peanuts in most places, with some putting them into old school buses, some kind of wagon, or a tractor trailer of some kind.

The first artificial dryers were introduced in the 1960s, mostly on farms. Later shellers began to operate dryers for farmers as well. In the 1940s and 1950s shelling and storage facilities were primarily flat roofed buildings, with the peaked roof buildings that you see today arriving in the late 1960s and early 1970s. Peanuts were still coming in bags, but some in trailers.

Lewis Carter, started an equipment business in Donalsonville, GA producing his first sheller in the early 50s. Today, most shelling plants now run Lewis Carter shellers, gravity tables and related equipment, which has become very sophisticated.

It was in the 1940s that we started getting organized as an industry. The National Peanut Council, which later became the American Peanut Council, was formed in 1940. Several state boards were established, Oklahoma had the first peanut producers board established in 1928, Alabama Peanut Producers in 1958, the Georgia Peanut Commission in 1961, Texas Peanut Producing Board in 1969. APRES, grew out of a National Peanut Council working group, in 1968, the year I graduated from Auburn University; that was a good year.

In the 1970s through the 1990s the peanut industry really began to change the way it conducted business. Metal single-story buildings replaced the old four-story wooden buildings. Now, shelling is done in long linear buildings that start with in-shell peanuts at one end and two acres later wind up with shelled peanuts. This system replaced the old way of starting with in-shell peanuts on the fourth floor and bagging the shelled peanuts on the first floor. Yet, I still think that the four story system made great peanuts. I helped my dad, who was in the peanut business, build one of the earliest peanut buildings here in Wakefield,



Virginia. Really interesting story about that - it had a peaked roof with the conveyor belt at the top of the house. The president of the Columbia Peanut Company came and inspected the house after we had finished building it and he decided there was not enough airflow in the building. It had outer and inner layers, so he said, "I want you to take some railroad spikes and drive holes in the inner layer, so we can get some air. These peanuts, they will mold if you do not." We argued and lost, so we went through the building and punched holes in the inside skin for two weeks to get enough holes to satisfy him. Of course, you know what happened, as the building filled peanuts went through the holes and into the sides of the walls. The Columbia Peanut Company president was not an engineer; nice guy though.

Electronic sorting of shelled stock has greatly improved over time. The first electronic peanut sorter was made by ESM out of Houston, Texas - a vacuum drawn sorter. Light reflecting off the surface of the peanut (or foreign material) would help determine whether it was a really nice peanut, was not a peanut, or was a damaged peanut. Good peanuts dropped in one chute and the bad into another. You could not buy the original sorters, you had to lease them. That was back in the days when IBM was only leasing their computers. Therefore, that was the big deal of electronics, was to lease the equipment.

Beginning in the 1970s and through the 1990s, we got out of burlap bags and into boxes. We had back strain issues, people dropping stuff on their feet, and more. The even weight bags were also introduced.

New peanut products from 1990 to 2017: you could mention a thousand different peanut products, more peanut products than you could possibly eat in a lifetime. These included peanut milk, peanut flour, and the resurgence of peanut oil, where people are beginning to realize its nutritional value and how good it is for cooking.

So, that's kind of my history of the peanut industry. We did get government regulations somewhere in there and just wanted to mention that in passing. In the 1930's the government figured too many peanuts were being grown, and not only peanuts, but other crops as well. They put

in federally regulated quota systems, which many growers, or those associated with growers, will remember. That legislation was changed a couple of times in the late 1930s and early 1940s. When people talk about continuing resolutions and legislations tied back to the 1937 and 1949 bills, they talk about the original government bill which included the quota system for peanuts. First it was based on acres, so many acres you were allotted, so many acres in quota. In 1977 they changed that to poundage because people's yields were just going sky high in the 70s with introduction of the 'Florunner' peanut. They almost doubled the yields in just a few short years, so they decided they needed to change the program from acres to pounds; and then 2002, of course, they eliminated the quota system for peanut altogether. All peanuts were essentially grown for every market, not just for the export market or the domestic market.

Peanut farming continues to grow. In 1996 the growers banded together to form the National Peanut Board, which has done a great job of promoting U.S. peanuts and peanut products around the world. In combination with the American Peanut Council and its export committee, we have seen the consumption of peanuts continue at a steady pace over the last several decades. So, that's the end of my story. Thank you very much for your attention.

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