Last frontier's sweet nectar: strawberries

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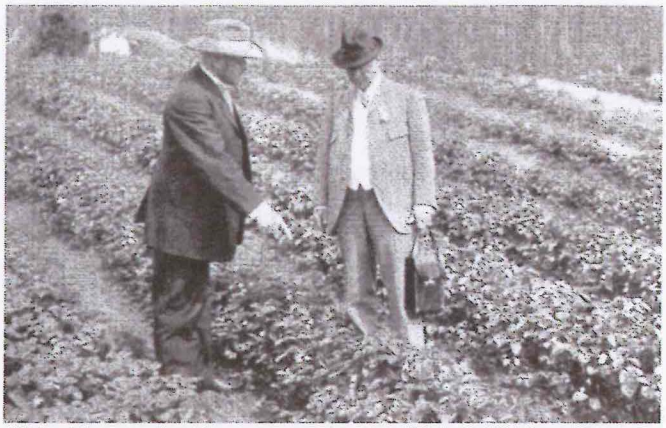
Fresh strawberries! If we could only grow strawberries in Alaska, surely that would mean we could grow just about anything! Such was one of the challenges that greeted Charles Georgeson when he began the Sitka Agricultural Experiment Station in 1898, and it has captivated the attention of researchers ever since. Charles Georgeson was given the charge to try everything and anything he could find to learn what crops could be grown successfully in Alaska. He worked with grains, vegetables, shrubs, trees and fruits but possibly his most successful and enduring accomplishment was with strawberries.

Strawberries are native to Alaska. The coastal beach strawberry (*Fragaria chiloensis*) grows in almost pure sand and gravel along the beaches, especially from Icy Strait to Prince William Sound. The fruit has been gathered by Indians for centuries. The same is true of the northern wild strawberry (*Fragaria virginiana*) which grows in patches throughout the Interior, particularly in dry, sandy soils. Only three years after Georgeson came to Alaska, he transplanted the first beach strawberries to the Sitka Experiment Station. In 1905, he also transplanted the northern wild strawberry to Sitka, but both attempts at domestication failed. The northern wild strawberries rotted in the wet Sitka ground, and the coastal strawberries grew such luxuriant foliage and runners in the fertile soils, that they produced no fruit.

As early as 1902, successful strawberry production was reported by homesteaders in Southeast Alaska. Probably the most successful growers were in Haines. One gentleman, in particular, Charles Anway, became well known for his giant strawberries, one fruit of which would fill a teacup! The Haines Strawberry Festival was an annual event for many years and celebrated Anway's accomplishments. These early successes were localized, and in much of the Territory, including the Sitka Experiment Station, "Lower 48" transplants did not survive. In 1905 Dr. Georgeson began an intensive breeding program that would eventually carpet the Territory with strawberry plants. He wanted to develop a strawberry that combined the hardiness of the wild strawberry with the fruit size and productivity of the cultivated berries from the "Lower 48" and find the perfect strawberry that would grow throughout the Territory.



Hybrid strawberries grown in rows, Sitka, 1913.

He hybridized the wild beach strawberry from Yakutat with a "Lower 48" cultivar of unknown origin. This cultivated berry was named "Hollis" because it came from a garden in Hollis, Prince of Wales Island. Of the 2000 seedlings that resulted from the crosses, only ten percent bloomed and even fewer produced quality fruit. Selected plants were propagated and sent to all the branch Experiment Stations. In 1910, the first Sitka Hybrid strawberries arrived in Rampart on the Yukon River. Station Assistant in Charge, George Gasser, found that some of the plants would survive the intense winter cold of the Interior with only a covering of snow for protection. He propagated the survivors and shared them with hundreds of homesteaders throughout Alaska.

The Sitka Hybrid strawberries were the pride and joy of the Sitka Experiment Station and homesteaders for many years. Seedling Number 468 was named in honor of President Warren G. Harding when he visited the Station in 1923. In the 1920s Fairbanksan, Strawberry Joe Nettleton, gained quite a reputation for "his famous Sitka Hybrid strawberries" grown at his Ester Siding homestead located at the end of Gold Hill Road. Through the mid 1960s, Sitka Hybrid strawberries were touted as "the only variety recommended without reservation, as dependable through nearly all Alaska."

Even today, they are sold commercially to homeowners and landscapers. Many old homestead sites throughout the state still have remnants of the Sitka Hybrid strawberries growing near long–forgotten foundations. One indication that strawberries are remnants of these original Sitka hybrids lies in their leaves. Many Sitka Hybrid plants have leaves with four or more leaflets rather than the three leaflets common to most cultivated varieties and to the northern wild strawberry. This trait comes from one of its parents, the coastal beach strawberry.

Sitka Hybrids included a diverse group of seed-

Putting up hay in Rampart, 1908.

virtually complete plant collection of species indigenous to the area, increase the cropland to 90 acres, and manufacture his own power driven threshing machine.

The population center of interior Alaska and the area of most activity developed around Fairbanks in the early 1900s and, in 1915, the U.S. Congress granted four sections of land for an Agricultural College and School of Mines.

George Gasser was a firm supporter of an Agricultural College for Alaska and worked toward its inception with Dr. Charles Bunnell, who was to become the first president of the University. In 1917, the Alaska Territorial legislature created the Alaska College of Agriculture and School of Mines and appropriated $60,000 for construction.

In 1920, George Gasser was transferred as assistant in charge to the Fairbanks Agricultural Experiment Station, where more agricultural activity existed. Fairbanks had its own flour mill capable of milling 25 barrels of flour per day and over 100 homesteads with agricultural problems that needed solving.

The first graduate of the new college in 1921 was John Sexton Schanely who had transferred from Cornell in 1919 when courses first started. He homesteaded land next to the campus like many other students, and after graduation ran a seed business for sometime. This property is just below the university where a bank and the intersection of College Road and University Avenue are now located. Dr. Gasser bought Schanley's homestead and lived there until he died.

In 1925 and 1926, Doc did more graduate work at California and then became Professor of Agriculture at the college in 1927. He brought to the College twenty–one years of Alaskan agricultural research experience gained at the Rampart and Fairbanks Stations as well as the wide contacts he had developed in working with Alaskans. By this time he had developed Gasser wheat, a variety superior to any to be found for interior Alaska for the next half century. He was director of the college Glee Club, worked with many community activities, and could always be counted on for providing leadership in setting up the agricultural exhibit at the Tanana Valley Fair.

Doc found time for some activities outside of the experiment station and college also. He was in partnership with a commercial greenhouse in downtown Fairbanks on the property where the Fairbanks Traveler's Inn now stands.

By 1936, George became Dean of Men on the Fairbanks campus and head of the College Department of Agriculture in 1937. In 1946 Doc Gasser was appointed the first Commissioner of Agriculture for the Territory of Alaska. Under his leadership, the territory established laws and regulations for improved marketing standards, animal health regulations and policies, aid to agricultural fairs, and a general–development attitude on the part of the territorial government.

He was one of the state personnel that accompanied a Federal agricultural task force that toured Alaska in 1947 in order to review the possibility of Alaska's developing a more self–sufficient food base. One outcome of that task force was the establishment of the U.S.D.A. Alaska Agricultural Experiment Station at Palmer.

George Gasser retired in 1953 but remained in Fairbanks. He remained as enthusiastic as his health would allow until his death in 1960. A crowded funeral service on a winter day at about 30° below in a little Fairbanks church demonstrated that the community had not forgotten an Alaska pioneer who spent a lifetime trying to improve Alaska's ability to care for herself.

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Vegetables ready for market, Unalaska (photo courtesy of the Boaz Collection, UAF Rasmuson Library Archives).

lings rather than a single cultivar. The plants that survive today in the Interior are not necessarily the same plants that survive in the Matanuska Valley or Anchorage or Homer area. One thing all Sitka Hybrids have in common is very soft fruit with white or pale pink flesh and pale pink skin. This characteristic made them suitable for home gardens, but not for commercial production. The Sitka Hybrid strawberries provided a foundation for breeding work conducted by Dr. Curtis Dearborn at the Palmer Agricultural Experiment Station from 1951 through the late 1970s. The purpose of Dearborn's research was to develop a bright red strawberry for commercial markets. Three cultivars were released from this breeding program that have provided the first full red–colored strawberries that are consistently hardy in Southcentral Alaska: 'Susitna', 'Squentna' and 'Matared'. These cultivars survive in the Interior, but they do not produce fruit.

Meanwhile—Cultivated strawberries arrived in the Interior only five years after Fairbanks was founded. Fairbanks market gardener, John Scharle imported thousands of plants from the "Lower 48" in 1907 and sold homegrown strawberries to delighted Fairbanksans the next summer. Although the imported plants did not grow well in subsequent seasons, Mr. Scharle hybridized the survivors with the northern wild strawberry to produce the first hardy cultivated plants in Fairbanks. These Scharle hybrids were grown by well–known homesteader, Harry Badger, nicknamed the "Strawberry King" and may have been used in the first breeding program at the Fairbanks Experiment Station begun by Dr. Arvo Kallio.

Kallio began hybridizing strawberries in 1958 and released his first cultivar in 1968. 'Pioneer', also locally known as 'Alaska Pioneer' is still a popular cultivar sold for home garden use throughout the state and in Canada. Fruit size is small, but it is wonderfully aromatic, a characteristic that came from one of its parents, the northern wild strawberry. The other parent, 'Senga Sengana' was the top–selling commercial strawberry in Europe for many years. Following Kallio's departure, Dr. Donald Dinkel continued making selections from Kallio's original crosses for improved fruit size and hardiness. In 1977, Dinkel released 'Toklat', still the most important commercial, perennial strawberry for Alaska.

Until the 1970s, all work done at the Agricultural Experiment Station involved June–bearing, perennial strawberries. When clear polyethylene mulches became commonplace in agriculture, a new system of strawberry production was developed in California. Everbearing strawberries, those that produce two crops per season, were being grown using a method of protected cultivation: clear polyethylene mulch for soil warming, and clear polyethylene row tunnels for additional heat and frost protection. Dinkel adapted this growing system for Alaska and provided an alternative to growing perennial strawberries . This system is very labor intensive and requires special mulch–laying equipment, but yields are very high. The most popular cultivar, 'Quinault' can produce up to one pound of fruit per plant in a good seasons.

During the past 10 years, strawberry research has continued at the Fairbanks Experiment Station. We have conducted cultivar trials of everbearing strawberries and research to improve the intensive protected cultivation system to assist commercial growers. We maintain demonstration plots of both perennial and annual strawberry growing systems in the Georgeson Botanical Garden in order to share cultivation techniques with the public. We maintain plants of all existing cultivars bred at the Experiment Station to share germplasm with growers and researchers throughout the Circumpolar North. In 1989, we experimented with the production of strawberry plants, rather than fruit, for possible export to lower latitudes. California growers actually came to Alaska to learn if Alaska–grown plants would become dormant early, thus allow Californians to plant their annual strawberry fields and get ripe fruit earlier than their competitors. We produced high–quality plants, but the plants did not fruit earlier in California.

After 100 years, strawberries still hold a fascination for Experiment Station researchers and Alaskans in general. No doubt, when the Experiment Station celebrates its 200th birthday, there will be plots of strawberries somewhere on the farm!

John Scharles's strawberry ranch in Fairbanks, Alaska (photo from the Albert J. Johnson Collection, UAF Rasmuson Library Archives).