History of Pima and ELS Cotton

All About Supima Cotton

Background

Extra-Long Staple (ELS) cotton has been grown in the Southwest United States since the early-1900’s, but it wasn’t until mid-century that much attention was given to the new cotton. The real breakthrough came in 1951 when a seed was developed and introduced that produced an ELS cotton with superior fiber properties, luster and silkiness...as well as an unusually high yield. Subsequent variety releases in the 1970’s, 80s and 90’s included Pima S-5, S-6 and S-7, all of which boasted higher yields and better spinning characteristics.

The name “Pima” was applied to ELS cotton (previously called American-Egyptian) being developed in the U.S. desert southwest in the early 1900’s. The name was given in honor of the Pima Indians who were helping to raise the ELS cotton on the USDA experimental farm in Sacaton, Arizona.

Although South America is the center of origin of the species gossypium barbadense, to which ELS cottons belong, these cottons were photoperiodic, and the fiber was medium staple in length and coarse, as typified by the current Tanguis cottons of Peru. The origin of true extra-long staple cottons can be traced to the introduction of Sea Island to the U.S. in 1786 from seed received from the Bahama Islands, an area from which Columbus is reputed to have taken Sea Island samples to Europe in 1492. The g. barbadense cotton that first appeared in the U.S. in 1786, where it became known as Sea Island, had strikingly different fiber properties from the native g. barbadense of South America. The exact origin of Sea Island cotton is unknown, but geneticists suggest that the most logical hypothesis to explain the ELS type was that it developed by transgressive inheritance through the introgression of length genes from outside the species, possibly from g. hirsutum.

The first successful crop of Sea Island was produced by William Elliott on Hilton Head Island, South Carolina in 1790. Although production of this ELS cotton later expanded into the interior regions of Georgia and Florida, the best Sea Island cottons were grown on the Sea Islands; James, Edisto, John and Wadmalaw. The crop continued until 1920, when a severe boll weevil infestation had made it unprofitable. Attempts to revive the Sea Island industry in the U.S. in the 1930’s failed.

The evolution of ELS cottons began in 1825 when Sea Island cotton was brought into Egypt and crossed with a tree cotton named Jumel. The crossing of Jumel and Sea Island resulted in the development of Ashmouni in about 1860. The next several Egyptian cultivars were derived either by selecting within Ashmouni or from crosses of Ashmouni and Sea Island. The successful utilization of inbreeding between the years 1910 and 1940 led to the gradual development of Egyptian cottons that could compete with the quality of Sea Island. (It’s important to note here that during the development of these later cottons, no germplasm from outside Egypt was used.)

The first ELS cultivar released by the USDA was “Yuma” in 1908. It was selected from Mitafifi, an Egyptian cultivar developed in 1887 from a cross of Ashmouni and Sea Island, and was introduced into the southwestern U.S. in about 1900. The first commercial ELS crop in the U.S. was produced in 1912 — 375 bales. Between 1908 and 1949, four additional Pima varieties were developed from the Egyptian germplasm base and released: “Pima”, “SXP”, “Amsak” and “Pima 32”.

At about the same time “Yuma” was being developed, the Egyptian variety Mitafifi was introduced into Peru. The same source traces the arrival of American Pima cotton seed into Peru to 1923. However, a Peruvian Cotton information sheet distributed by the Junta Nacional Del Algodon (national cotton association) says Peruvian Pima originated from the “Yuma” cotton developed in Sacaton, Arizona, and was first grown in Peru in 1918. Dr. Carl V. Feaster, a
longtime Pima breeder and geneticist, and known around the world as the father of modern-day Pima cottons, says he doubts the first Peruvian Pimas were actually Yuma, but more than likely were Pima, which was grown in the U.S. from 1918 - 1941. He said Pima was a selection from "Yuma" and its fiber characteristics more closely match those of Peruvian Pima's at the time. By 1930, Pima production had reached 28,307 bales in Peru, while the production of Mitafifi was quickly diminishing, soon to be all but extinct.

**Gossypium hirsutum** — or upland cotton — can be classified into four major types; Acala, Delta, Plains and Eastern. Acala types in the U.S. are confined to irrigated regions in the southwest and far west. These varieties produce the longest staple cotton among the domestic upland styles, and their growing seasons most closely resemble that of American Pima varieties. Yields in these areas are higher than those generated from upland cotton produced in southern, mid-south and eastern states because of the longer growing season, greater number of hot days and close control of irrigation. Because of the longer growing season and higher yields, however, these crops are more expensive to produce.

Cotton varieties are developed to suit specific growing regions and their respective environmental and cultural conditions, with the objective of maximizing yield potential and improving fiber characteristics. The same applies somewhat more loosely to the individual cotton species, which are limited to Pima (**gossypium barbadense**) and upland (**gossypium hirsutum**). The only other native cotton species — Asiatic (**gossypium arboreum**). The only other native cotton species — Asiatic (**gossypium arboreum**) is grown almost exclusively in Southeast Asia.

Supima was formed in 1954 in El Paso, Texas. In its early years Supima was primarily concerned with promotion, government regulations and agricultural research. In an effort to keep pace with the expanding interest worldwide in ELS cotton, Supima broadened its responsibilities in 1978 when it merged with the Arizona Cotton Planting Seed Distributors, essentially overseeing the production and distribution of all certified American Pima planting seed. However, the division was sold to Delta and Pine Land Company in 1993 when commercial seed companies had entered the business. The sale also marked the end of Supima's 30-year-old partnership with the USDA in its Arizona-based Pima Improvement Program. Supima had provided funding for the program designed to develop new and improved seed varieties. Revenues from the seed division also was used to help finance ginning research and improved production practices.

Supima is represented by a board of directors composed of 11 Pima cotton producers: seven from California, two from Texas and one each from Arizona and New Mexico. Directors are elected by the general membership to three-year terms and are eligible for re-election. Board officers are elected to two-year terms by the directors as follows; chairman, vice-chairman and secretary-treasurer. The offices of president and executive vice president are full-time staff positions.

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i Supima Association of America brochure, Phoenix, Arizona, 1992, p 3.

ii Ibid.


ix Ibid.
