

Sonora wheat history: another look

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I. Sonora wheat before California's Goldrush in 1849

Sonora wheat history in the California region looked simple enough; Sonora was introduced by the Spanish missionaries from Mexico (1), and before this it must surely have come from Spain. I made a mental plan for a Sonora wheat poster. To the left there would be a romantic picture of a Mission and in the foreground the Sonora wheat would be in silhouette against the sky. To the right there would be some Sonora wheat baguettes and possibly some Sonora wheat tortillas in deference to the Native Americans who enjoyed Sonora wheat, perhaps I would include a metate to show how easily they could grind Sonora wheat (2); everything whole wheat of course. But the first step of visiting the nearest Mission, in present day Santa Clara, for a photograph immediately gave rise to a more complex story. It was a quiet Sunday evening in the spring; sultry and fragrant with lush vegetation, before the drying heat of summer had set in. I drove with the car window down and briefly forgot that I was in modern paved-over Silicon Valley, instead I was seeing only the sky and the treetops and one last hayfield in the Santa Clara Valley near Milpitas and San Jose. The ghosts of this same fruitful Valley of the Heart's Delight and the speed of history made me shiver. When I arrived at the Santa Clara Mission the herbs and roses all around were in full spring bloom and perfumed the peaceful evening air.

The vestibule just inside the Santa Clara Mission was decorated with historical accounts and free pamphlets. Most intriguing was the De Anza Trail guide (3). I'd many times seen the signs along the local highway 237. At home I read and re-read every word on the De Anza trail guide pamphlet to make sure I understood; it did not read as I had expected. Captain Juan Bautista De Anza and the Priest Pedro Font had been given the task of founding a Mission and a town inland from the planned coastal Mission and Presidio of San Francisco. The idea was to colonize a region likely to be good for agriculture so that food could be produced locally for San Francisco. They began their journey way south in the Sinaloa and Sonora regions of Mexico and they recruited soldier farmers and their families. The group numbered more than 200 when the cowboys, mule packers and Indian guides were included, and they had collected 1,000 head of livestock by the time they left the Presidio in Tubac, in present day Arizona. The year was 1775. Their journey was slow but successful, in no small part because the Indians along the way were friendly and helpful. The time with the agricultural Yuma Indians was so impressive that it inspired Pedro Font to record the food crops they were growing. The list was quoted on the De Anza trail map right beside present day Yuma, and I was truly startled to see that wheat, as well as watermelons and cantaloupes were included with the expected Native American crops of maize (corn) and beans. I was startled because this revealed that wheat, together with watermelons and cantaloupes were already well established among the Yuma Indians, before the founding of the agricultural Missions in the California region (4).

It was evident that I needed to return to the references on Sonora wheat. First I re-read John Percival's 1921 description of Sonora wheat, *Triticum vulgare* var. *Delfi* (5) and to my astonishment saw that Spain was missing from his list of countries where the Sonora wheat type had been collected. Instead the countries listed were only Khorasan

(Persia), Egypt, India, South Africa, and California. Percival also states that the Sonora type is quite rare; it is beardless and the glumes (chaff) are velvety and bronze-red, the grain is very pale and golden. This is contrary to club wheat which is also believed to have been introduced by the Spanish – Percival describes club wheat growing in Spain in 1921; it is therefore quite plausible to accept that club wheat was a Spanish introduction to the American continent. There is further evidence for the affinity between the Spaniards and club wheat; club wheat, not Sonora wheat was identified in the adobe bricks dating from 1811 in the nearby Mission of San Jose (6). Just for the record the wheat variety Propo and two club wheat varieties were found in these adobe bricks, but the Sonora was conspicuously absent.

As for the Yuma Indians, if they were successfully growing Sonora wheat in 1822, as suggested by Clark (7) they were likely also growing the same wheat much earlier, when for example they were entertaining the De Anza colonists in 1775. Clark's comments seem now to suggest that Sonora was already the wheat of the agricultural Native Americans throughout Mexico and into the Southern California and Arizona regions. This would leave the club wheats and Propo as the varieties available to the Spanish colonists.

The Mohave Indians from the same regions as the Yuma, have within their mythology that their wheat is indigenous (8). This gives further substance to the idea that they received wheat considerably earlier than the date of Spanish colonization in the California region. Indeed there is obvious record of Native American contact with the Europeans before actual colonization. When Coronado was exploring the region for gold, a support group led by Alarcon traveled through the delta of the Colorado River. Alarcon even in 1540 found the Yuma acquainted with Spanish ways, although wheat agriculture does not seem to have been mentioned in his accounts.

Suddenly as I read further, I realized that the explorations following the discovery of the American continent were not simply for colonization. Instead there was an immediate and avid exploration for gold, and it was found in quantity in Central and South America. Under such circumstances the presence of European influence at an early date after Columbus, as far north as present day Arizona and Southern California, from Mexico, seems entirely plausible. The introduction of wheat, watermelons and cantaloupes can be accounted for because they were in both the Spanish and Portuguese cuisines. The Moors had popularized watermelons in Spain and Portugal (9) where they had gained acceptance sooner than in the rest of Europe, beginning perhaps in the year 961.

The Portuguese were highly skilled seafarers especially following the influence of their Prince Henry the navigator. They had focused their attention on gold on the African Continent from 1450 onwards and explorations by sea, had led them all the way around South Africa and India to the modern day Calcutta region. Their richest source of gold was in West Africa until they discovered and claimed Brazil in 1500, and the gold there. At first the Native American population was exploited to mine the gold, but to speed up the gold production the Portuguese without compunction brought slaves from West Africa. Perhaps their only link with home was the food the slaves brought with them, and so must the watermelon have arrived in Brazil at the known date of 1613, according to Davidson (10), but I wonder why it could not have arrived sooner with the Portuguese themselves, in 1500.

If the Spanish did not grow Sonora wheat either in their home country or as colonizers, who could have introduced it to the Native Americans? The Portuguese were directly in contact with Columbus on his momentous return from the West Indies in 1492. He returned via the newly populated Portuguese Azore Islands 800 miles west of Portugal in the Atlantic (11). The observation is that Portugal and the Azores rather than Spain could have supplied the needs for the explorers travelling by sea to the Americas. Perhaps it was the Portuguese, who favored Sonora wheat over the club wheat. The commonality between all those countries growing the rare Sonora type wheat could be that they were “explored” by the Portuguese. At least that could apply to South Africa and India. The Portuguese themselves could have received Sonora wheat, by another name of course, from Egypt or Persia when they too were invaded for their mineral wealth, and settled by the Moors with their Middle Eastern culture.

Another contribution to the puzzle is the tradition of wheat weaving the *Corazon de Trigo*, in Mexico. Apparently the only other region known to have preserved this traditional design is Orissa in India (12, 13). Was there a wheat introduction in Mexico by the same people who introduced it in Orissa, India? The Portuguese I’m guessing, were responsible, but how can it be proved? Surely there must have been much one way exploration in the 1400s before sufficient resources were available for the journey home again, and the glory to be found in recounting the adventures. Also, the historical records stored in Lisbon, dating back to this time, were destroyed in the massive earthquake of 1755 (14). Further studies on adobe bricks from agricultural Native American and Spanish colonial structures along the fertile regions of the Colorado river, might help to discover who in the American South West was originally growing Sonora wheat and when.

There is more. After I had thought my writing was at a stopping point, I found the latest book by Gary Paul Nabhan (15). He describes the presence, even now of ancient Arab culture in the Sonoran region, recognizable in language and cuisine that is often incorporated into Native American ways. All those times that I have looked at pueblo photos and orno ovens and thought there must be a link to the Middle East, have finally been corroborated by Nabhan’s first hand observations. Although there are many recent immigrants from Arabic countries, he is convinced that there was a significant wave of Arab (Moors?) immigrants who arrived soon after Columbus in 1492. Now I speculate that their supplies would have been the same as those for other sea voyages of the time, including the wheat that would have gone to South Africa and India, with them to the Sonora region, and come originally to Portugal from Khorasan (Persia) and Egypt. This is a match for Percival’s sources for the Sonora wheat type, in 1921 (5).

References and notes:

- (1) F.L Patterson and R.E Allan: *Soft Wheat Breeding in the United States*, in *Soft Wheat: Production , Breeding, Milling, and Uses*, ed. W.T.Yamazaki and C.T.Greenwood. American Association of Cereal Chemists, St Paul, Minnesota, 1981.
Note: See, p. 59.
- (2) W. E. Bryan and E. H. Presley: *Milling and baking qualities of pure lines of Arizona-grown wheat. Univ. Ariz. Exp. Stn. Tech. Bulletin 27*, 1929.

- (3) National Park Service: Juan Bautista de Anza National Historic Trail Map and Guide. (<http://www.nps.gov/juba>
- (4) Pedro Font: *The Colorado Yumans in 1775*, in Herbert Eugene Bolton, ed., *Font's Complete Diary*, 1931.
- (5) John Percival, *The Wheat Plant, a monograph*. E. P. Dutton, New York, 1921.
- (6) George W. Hendry and Margaret P. Kelley: *The plant content of adobe bricks*. *California Historical Society Quarterly*, 4:361-373, 1925.
- (7) J. Allen Clark, John H. Martin and Carleton R. Ball: *Classification of American wheat varieties*. *USDA Bulletin No. 1074*, November 8, 1922.
- (8) A. L Kroeber: *Handbook of Indians of California*, 1925. Later republished by Dover. Note: See, p. 735. Also, p.782, for reference to the Coronado and Alarcon expeditions of 1540.
- (9) David Maynard and Donald N. Maynard: *Cucumbers, Melons, and Watermelons*, in: *The Cambridge World History of Food, Volume I*, ed. Kenneth F. Kiple and Kriemhild Coneé Ornelas. Cambridge University Press, 2000.
- (10) Alan Davidson: *The Oxford Companion to Food*. Oxford University Press, 1999.
- (11) Carlos Almeida: *Portuguese Immigrants*. Supreme Council of UPEC, San Leandro, California, 1992.
- (12) M. Lambeth: *Straw Craft, More Golden Dollies*. John Baker, London 1974.
- (13) Linda Fisk, *unpublished conversation*: The Zapotec Indian straw church ornament from Mexico, in Trigo de Corazon design, was presented to the *Museum of Man, San Diego, California*, around 1960. Note: The wheat heads in the ornament are of a bearded wheat, unlike either Sonora or club wheat.
- (14) Rebecca Stefoff: *Vasco da Gama and the Portuguese Explorers*. Chelsea House Publishers, New York, 1993.
- (15) Gary Paul Nabhan: *Arab / American, Landscape, Culture and Cuisine in Two Great Deserts*. The University of Arizona Press, Tucson, 2008.
- (16) Yvonne Jacobson: Passing Farms: Enduring Values. William Kaufmann, Inc., Los Altos, California, 1984.

II. California wheat and the Gold Rush

To the Argonauts, gold seekers, gold seemed to be concentrated in Central and South America. As a result the California region was not particularly interesting, except to the Spanish who wanted to maintain their claim to the land and prevent its takeover by the British or Russians or anyone else. Hence the formation of the Presidios of San Francisco and Monterey with associated Missions. Inland the Missions were agricultural centers of huge land grants, with the local Indians providing plenty of enforced labor. Hides and tallow were produced for the King of Spain, and food was grown for the Presidios and the Missions. The local Indian way of life was spoiled in the presence of these Missions and their population had decreased dramatically by the 1820s. This was the time when the Missions were freed from allegiance to Spain, and also the Pope; they then belonged only to Mexico. Huge ranchero land grants were made to wealthy and influential Mexicans, who generally, used their land for cattle ranching, and relatively small areas for crops. Outside these rancheros there was still some good agricultural land available and farmer-rancher settlers came into the California region with a good chance that they could find some good land to settle. The Indians were further ruined by the increasing loss of primitive land. Trade was still mostly hides and tallow. A deeper description of Santa Clara agricultural history is given in Yvonne Jacobson's book (16). By 1846 the California region had declared its independence from Mexico too, but by 1848 allegiance was to the United States in order to maintain that independence from Mexico. California's recognition as a state came in 1850. So the discovery of gold in California in 1849 came right after independence from Mexico.

Through this time from the founding of the agricultural Missions in the 1770s until 1849, wheat was most likely grown in amounts only for local use. Reasonably, the varieties of wheat grown were those also discovered to be present in adobe bricks from the Missions dated between 1820 and 1846. They are listed using the Latin names corresponding to Percival's (5) description: Big and Little Club wheat (*Triticum compactum* var. *Humboldtii*);