

Ancient Agriculture -
Part II: Ancient Egypt

by C. Mundigler

In the last issue of *Labyrinth*, we saw how conditions in the ancient Near East sparked the development of agriculture and brought about the advent of settled civilization in an area of the eastern Mediterranean known as the "Fertile Crescent". In this article, we will look at how agricultural development continued in the area at the very southernmost point of that "Crescent"—the fertile strip along Egypt's life-giving Nile River.

As we saw in the ancient Near East, tending crops and livestock provided a predictable and dependable source of food, both in good times and in lean times. It even provided early people with a surplus of goods and food, allowing them the luxury of specializing in trades and services. This, in turn, led to an increase in population through a settled lifestyle and eventually cities and empires grew on the foundations laid by agriculture. These agricultural, social and economic changes were by no means limited to the Fertile Crescent of Asia—they also spread rapidly to North Africa, where a strong Egyptian culture soon flourished.

As in the Near East, the Nile's inhabitants found that some grasses and wild plants could be selectively planted and cultivated to produce crops for human consumption. This made possible the settlement of the Nile Valley and a

change from a nomadic way of life to a settled agrarian lifestyle. They soon found that raising animals and cultivating fields were easier and more secure than hunting down unpredictable game. As we shall see, the Nile had one major advantage over most other geographic regions—it replenished the soil along its banks annually during its flood season, providing a narrow strip of rich agricultural land in an otherwise parched desert landscape.

From archaeological evidence it seems clear that settled agriculture and animal husbandry did not initially develop in Egypt, but were brought into the region from the area around what is now known as Turkey and Iran. Many of the crops and livestock found in ancient Egypt were also not native to the area, but were slowly introduced from southwest Asia. Methods of baking clay for fired pottery and making stone querns for grinding and milling grain may also have been introduced into Egypt at this time to help in the preparation and cooking of food. The use of sheep, goats and oxen for food, clothing and transportation may have also come into Predynastic Egypt by way of the ancient Near East. In times of poor agricultural production, these animals would have been a valuable source of dairy products as well as readily available meat.

Sometime ca. 5000 B.C., Neolithic people began to notice that the Nile River flooded at regular intervals annually and when it receded, it left behind an incredibly rich soil into which they planted their first seeds. Later, the Egyptians also learned that as predictable as the Nile was, there were also years when its flooding was not sufficient to irrigate their crops adequately and, therefore, they developed various means of artificially irrigating their fields as well.

Physical evidence dating from about this same time in Egypt indicates that the Neolithic people were using flint to make such agricultural implements as hoes and sickles, and building reed-lined storage pits for harvested grain. This shows a considerable amount of foresight on the part of these people—they must have had both a surplus of grain and the practicality to realize that in times of food shortage they could draw on these stores of grain to help them ward off the spectre of famine. Also by this time, fibrous plants such as flax were being grown and the fibres then spun into linen for clothing.

But what of the Nile itself? How did it really bind people to its narrow, fertile banks? The rich soil which was left behind after the annual flooding was a humus containing essential minerals and potash, carried down to Egypt by flood waters caused by rains at the source of the Nile in mountains 4000 miles to the south. The flooding of the Nile Valley was so regular that the ancient Egyptians named their three annual seasons after the river's pattern—the "Inundation" from our modern June to September, when the Nile began to rise to when it was possible to sow the seeds; "The fields appear from

the water" from October to February, between the sowing and harvesting of the crops; and finally the "Drought" from March to June, which was the time of low water between harvesting and the next flooding.

During the time of flooding, the Nile rose by as much as 50 feet, which was usually more than enough to feed the elaborate irrigation systems set up by the ancient Egyptians to maintain their crops with life-sustaining water even after the river receded. With such a regular and rich gift from the Nile every year, Egypt soon grew into the wealthy, powerful Empire most of us have come to associate with the temples, tombs and pharaohs. At times, the flooding left such a rich deposit behind that two or three crops could be cultivated and harvested in a single year.

Each year after the flooding, it was necessary to re-survey and re-establish field landmarks and boundaries, clean out the irrigation channels and plant the new crops before the harsh sun dried out and hardened the earth once more. Once planted, the crops were tended and cultivated, occasionally watered by irrigation canals, and generally left to grow on their own. Irrigation channels were used mostly to feed the fields on marginal land not reached by the flood waters or for growing crops in the summer.

This seasonal cycle dictated by the Nile also regulated the social life of the people who lived along it. During the Inundation, the fields were flooded and the people were left free to tend to some of the monumental "make-work" projects ordered by the pharaohs. During the second season, the farmers were kept busy ploughing fields, planting crops in the rich mud, and trying to dike the receding waters for later use. Finally, the Drought was a time of intensive harvesting and threshing. There are many scenes which survive to this day on the walls of tombs in Egypt depicting this annual cycle of ploughing, then sowing with oxen, sheep or pigs treading the seed into the ground, followed by reaping, threshing, winnowing, transporting and storing the crops.

As much as a good flood season meant agricultural prosperity to the ancient Egyptians, so a low Nile season could mean famine and economic disaster. For the most part, Egypt survived these catastrophic low Niles because of its wonderfully constructed irrigation systems and cleverly devised water-lifting and hydraulic technology. Strict government control over grain supplies, granaries and surpluses also helped ensure the protection of the population during these unpredictable disasters. A stela from Dendera boasts how rulers in the 20th century BC were able to organize and provide for the people, as well as protect the crops despite great famine and strife in their district. It followed that when the administration of Egypt was good and the agricultural resources were well managed, Egypt remained strong and vibrant, but when the administration faltered and these same resources

were put in peril, especially in years of low Niles, Egypt itself hung in the balance—so heavily was the government tied to the agricultural prosperity of the land. The entire political system of Egypt depended on understanding the whims of the Nile and taking advantage of the gifts it brought.

All in all, the administration of Egypt managed the agricultural economy so well that despite famines, droughts and low Niles, ancient Egypt remained a strong power for most of its long history. Even when other areas encountered similar droughts and famines, Egypt was looked upon as productive and thriving—in the Bible, for instance, we hear Jacob telling his sons, "I have learned that there is corn in Egypt. Go down and buy some so that we may keep ourselves alive and not starve." (Genesis 42.2).

Wheat, barley, millet, vegetables, fruits, flax and cotton were cultivated, used and even exported. The papyrus reed was also grown and made into a type of paper which was very important as an export commodity until about the 12th century AD. Barley was used in the production of bread and beer, both essential to the ancient Egyptian diet, as were onions and leeks. Flax was used in the manufacture of linen, which was virtually the only fabric used by the Egyptians. By the New Kingdom of about 1500 BC, grapes had become very important, with moringa, castor, flaxseed and sesame oils being produced locally for cooking, cleaning and lighting.

With the domestication of livestock, another by-product of a settled lifestyle, came the use of draught animals to replace human labour in the fields, as was the case in Mesopotamia. Oxen were used to drag rudimentary wooden ploughs and with this was born an agricultural technology which continued to develop for many centuries afterward. One man working his small field along the Nile could now accomplish twice as much work in half the time, leaving him free to take on new tasks. Donkeys were also used as beasts of burden, but contrary to what many of us may think, camels were not tamed for domestic use in ancient Egypt until Greek times. Cattle, sheep, goats, ducks, geese and pigeons all added to the agricultural landscape. Just as with the development of agriculture, the domestication of animals seems to have first developed in southwest Asia and then been introduced into Egypt in the Predynastic era of about 5000 BC to 3500 BC.

Through almost 5000 years of its development, Egypt depended almost entirely on the agricultural production provided by the Nile River. Egypt developed an agrarian civilization that grew strong, stable and wealthy. It must have become clear to most of the leading Empires of the known world that whoever controlled the agricultural production of Egypt, controlled the Mediterranean world—so important were the grain crops of Egypt. The population grew, invaders came and went, and yet still Egypt maintained its dominance on the world scene. The historian Diodorus, a contemporary of Julius Caesar and Augustus, tells us that in his day more than seven million people easily lived along the Nile (I.31).