

impossible in one, two, or perhaps several years to restore an entirely suitable structure to this soil. It is evident however, that organic matter in the form of residues, manure, and green manure crops can be used which will give satisfactory beet yields through their effects on the soil structure.

References:

- I. J. A. Slipper, E. P. Reed, et al - Sugar Beet Production in Ohio - Agri. Ext. Bul. 194, Ohio State University.
- II. R. B. Farnsworth, Soil Physics Studies on Sugar Beets, Proceedings A. S. S. B. T. Eastern United States and Canada, 1939. Page 52.
- III. R. M. Salter et al - Our heritage, the soil. Agri. Extension Bul. No. 175. Ohio State University, pages 5-7.

"AGRICULTURE IN IRAN"

G. H. Siegunfeldt

Notes made from an illustrated lecture given by Dr. G. H. Siegunfeldt of Denmark at the Agronomy Section of the American Society of Sugar Beet Technologists. Dr. Siegunfeldt is on the staff of the University of Copenhagen and is associated with the Danish Beet Seed Company, as plant breeder. His company is supplying beet seed to Iran and he has several months there each year as Agricultural Adviser to the Shah.

"Iran consists of ten provinces, each one of which is ruled over by a Shah, and the most powerful of these Shahs used to rule over the other Shahs.

"Once, when the Darius dynasty ruled over Iran, it was a great country, which ruled over most the world, known at that time. The country itself was not as big as it is today. The rulers lived in the province of Pars or Fars as it was called and resided in the most beautiful palace the world ever has seen. Persepolis was destroyed about 3000 years ago by Alexander the Great, who at that time killed King Darius the Great and his entire family.

"Iran was also in other respects a great country. It was the cradle of agriculture. It was the Persians, under the rule of the great kings, who went out and taught the Babylonians by the Euphrates and Tigris Rivers how to cultivate and irrigate the land. They also taught the Egyptians in the Valley of the Nile.

"Iran is the native home of many of our fruits, such as peaches, apricots, almonds and pistachios. The first wine was made in Iran and theirs is still a leading type of wine. Iran is likewise the homeland of alfalfa. History tells us that the Roman Caesars obtained their heavy horses from Persia where the horses grew so large, because they fed on the alfalfa which grew wild on the plains, where these horses pastured.

"Today agriculture in Iran is in the same stage of development as it was a thousand years ago. However, during the past five years and by command of the present ruler, His Majesty Shah Pahlevi of Iran, efforts have been

made to develop Iranian agriculture. Among other things, the Shah has ordered that Iran, within five years, shall produce its full supply of sugar.

"The Shah (himself) has paid for the construction of eight beet sugar factories. He plans to build five more beet factories and also one cane sugar mill. However, the question arises in our minds whether Iran with its old farming methods can grow enough sugar beets to supply 13 factories."

The colored photographs of which over 100 were shown, were taken by Dr. Siegmundfeldt during his three months sojourn in Iran during the summer of 1939.

The beet fields seen were usually small and often would be under an acre in size. There is practically no farm machinery in Iran, and the land is usually "dug" by heavy hoes and picks. The owner of an oxen-pulled wooden plough is regarded as rather modern, and the usual preparation of the field consists of breaking up the heavy clods which are pulled over by a long-handled hoe used like a pick.

The beet seed has been imported across Southern Europe, or more commonly from Denmark via the North Sea, the Mediterranean and the Black Sea. The beet seed is sown broadcast by hand and raked into the ground. All beet crops must be irrigated, and the areas planted to beets are limited by the scarcity of irrigation canals.

The beets, not being in rows, cannot be cultivated, but the weeds are removed by "pulling" or by hoeing. The weeds are valuable as feed for the farm animals and so are taken home by the field workers for cattle feed.

The beet crop is harvested by hand digging or pulling and the beets usually transported to the local factory by camel. Often a factory manager may have several thousand camels coming to his factory each morning, loaded with factory beets in 300 pound lots.

Danish engineers have built the sugar factories and are assisting in factory operation. The Shah is apparently very much interested in the beet crop and was seen in a number of pictures inspecting the beet fields.

Yields of sugar beets are still very low and variable because of poor land preparation and faulty irrigation, but the agricultural leaders are striving to modernize the farming practices and teach the peasants better ways of farming.

Several slides of beautiful gardens, brilliant with a variety of flowers, showed that Iran has its beauty spots and can produce plants of excellent quality. The agriculturists have many problems to solve during the next 5 years if they are to complete the sugar program of their Shah.

FEED VALUE OF BEET TOPS

N. J. Muscavitch^{1/}

By beet tops we mean the leaves, stems and portion of the beet crown which compose the by-product resulting from a normal topped sugar beet. Analyses were made on samples taken from average beet fields near the Scotts-bluff plant of The Great Western Sugar Company, at topping time, tops cured on drying racks to keep them out of contact with soil and to allow for the rapid and free circulation of air for rapid drying, and samples fully cured in the

^{1/} Great Western Sugar Co.