

gation—of planting soya beans on this tankage, which would extract the nitrogen from the air and increase the nitrogen content. And it so happened. The nitrogen content went up to the required amount and the green soya bean growth was turned under at the proper time and this amount of fertilizer was sold.

Mr. H. O. CHUTE: Mr. President, Mr. Meade's paper has so well reviewed the subject of the potash manufacture that there is very little left for me to say on a subject that I thought might perhaps be of interest, and that is the manufacture of potash in the West. I may, however, supplement his remarks to some extent and mention some of the developments that he has not touched on.

The Hawaiian Islands have been intensively cultivated for sugar for a number of years, using a considerable quantity of fertilizer, including Stassfurt salts. The molasses produced from the cane contains from $1\frac{1}{2}$ to 2 per cent of potash as K_2O , and before the war some of the plantations had dumped the molasses into the irrigation water, which being spread on the fields, probably retained the nitrogen, and potash was probably absorbed by the natural zeolites and held there for a future crop. At the present time about 250 tons of molasses daily come from the Hawaiian Islands and are distilled for alcohol around San Francisco. The largest plant treating 150 tons of molasses daily is saving the potash. The molasses is fermented with a dilution of from four to seven times its amount of water and probably the amount of potash in the slop is not very great. This is evaporated or was evaporated a year ago in Porion evaporators such as those described by Mr. Moore yesterday as being used in sulphate mills formerly; that is, flat furnaces containing disks revolving on a shaft. These, of course, only give a single effect evaporation, but at the present time it pays, and a large amount of potash salts are recovered. The slop is evaporated to a sludge in the rear pans with the stirrers and then thrown into the forward compartment, where it burns in the furnace down to a char. This is brought out and sometimes sold direct, perhaps in other cases treated for chloride of potassium. There is one instance in the utilization of beet sugar molasses residue in the form of Steffens waste as described in a previous paper of which our member Mr. Edgar Baruch is in charge, who has written a letter to the Secretary, who gave it to me, but the letter says little about what he is doing. He merely mentions beet sugar waste.*

*See letter on page 101.