SORGHUM.

AT a recent meeting of the New York Chamber of Commerce Dr. Peter Collier, who has made a special study of the cultivation and uses of sorghum, made an address, from which we extract as follows:

The history of sorghum with us only dates back to 1853, when William R. Prince imported from France a little sorghum seed, which M. De Montigny, the French Consul at Shanghai, China, had sent to the Geographical Society of Paris in 1850. In 1857 Leonard Wray, an English merchant, brought from Natal, South Africa, sixteen varieties of sorghum seed. To these last the name "imphee" was given, while the former was known as the "Chinese sugar cane." And yet this plant, whose merit as a sugar producing plant appears to have been recognized thirty years ago, had come to be regarded as mainly valuable for forage or as a source of an inferior quality of syrup. It was a great error obtaining in Great Britain and on the Continent, as also in our own country, that the East Indians were a rice-eating people. Fully nine-tenths of them subsist mainly upon sorghum seed. In Turkestan sorghum is the main cereal, as, owing to the excessive droughts, no others could be successfully grown. In the northern part of China sorghum was grown as maize is with us, and for the same purposes, and it so entirely satisfied the wants of the people that it had practically excluded maize. I have personally obtained within a few months from Calcutta eleven varieties of sorghum seed, twenty-one varieties from the Dharwar district in Western India, three from Hong Kong, three from Foo Chow, two from Senegambia—in addition to eight varieties from Northern China, three from Cawnpore, India, and twenty-two from Natal, South Africa; in all, seventy-three distinct varieties of sorghum—not one of these appearing to be identical with any of the numerous varieties cultivated in the United States; and it is to be remembered that none of these varieties has ever been cultivated in either of these countries for any purpose other than the seed and such forage as might be secured from the stalks and blades. Indeed, it is probably true that for the past thousand years the seed of sorghum has furnished food in greater abundance for both man and beast than have wheat and maize combined.

It is admitted that the demands upon climate and soil of the sorghum, as also the details of cultivation, are practically identical with those of maize, although it is a matter of moment that the sorghum, provided only it secures a good start in the early portion of the season, is capable of withstanding not only, but even flourishing during a drought which would prove fatal to maize. [This quality would seem to render it especially adapted to the soil and climate of the "Inland Empire."—Ed.] The chemical composition of sorghum seed shows it to be practically identical with maize; and for the purposes of food or fattening, for the production of alcohol, glucose or starch, the one may be substituted for the other, and there is no reason for any difference in their commercial value. Grown as Indian corn is grown, for the seed alone, sorghum is a crop of equal value with corn, and we are prepared to believe that upon a plantation properly located with regard to the mill, and with economy in management, the seed will pay the entire expense of cultivation of crop and the delivery of the cane at the mill, as one of our largest sorghum planters has assured me.

The average amount of available sugar present in the juice actually expressed, from a crop actually grown, equaled 1,960 pounds per acre, while the amount of available sugar actually present in the crop, on the supposition of 90 per cent. of juice, was an average of 2,853 pounds per acre. These certainly are astonishing results, and since they have been published there have been, in certain quarters, persistent and continuous efforts to cast discredit upon them, despite the fact that a committee of the National Academy of Sciences (our highest scientific authority) had unanimously indorsed the methods by which these results had been obtained as being "among the best known to science."

The bagasse from sorghum contains not only a large amount of sugar, but other valuable food constituents, and it is, as it comes from the mill, in a mechanical condition admirably adapted for the silo and for eating. It appears from averages of a large number of analyses, that the actual money value of bagasse for food is almost exactly double that of ordinary ensilage; and since many of our farmers are engaged in preparing and feeding ensilage, it is worth while for them to consider the value for this purpose of the bagasse of the sorghum mills, at present used as fuel or for the manure heap. The bagasse from which the sugar had been thus removed was afterward submitted to the ordinary process for the preparation of paper pulp, and a sample was made, which, upon being submitted to one of our largest paper manufacturers, was pronounced to be of excellent quality, and worth four and a half cents per pound. A ton of cane would yield at least ninety pounds of such pulp, so that, with an average of ten tons to the acre, there might be made an amount of pulp worth $40.50. It is to be considered that each step in the process to which the cane is subjected increases its value for the production of pulp, and as there is nothing in the treatment which forbids its economical employment upon hundreds of tons of exhausted bagasse, there is reason to believe that ultimately this industry may be added to the production of sugar from sorghum cane, thus utilizing a waste product and increasing the profits on the crop. I think, therefore, that it may fairly be claimed for sorghum, from the facts which have been presented, that we have in it a crop fully the equal of Indian corn for its seed, and in its stalks fully as rich in sugar as is the sugar cane of Louisiana, and besides furnishing, in its bagasse, a material for the silo twice as valuable as common ensilage for food, or which bagasse may, by diffusion, yield at least an average increase in sugar and syrup of 50 per cent. over that obtained by the mill, and then furnish to the manufacturer of paper excellent material for pulp. The statements made above are worthy the consideration of our farmers and paper manufacturers.