

and how it exerts a residual action by increasing the availability of minerals though none of the molasses is left behind? After about twenty years of research, the Java workers have come to the conclusion that the fertilising action is mainly due to the sugars, the effect produced by equivalent amounts of minerals and nitrogen being very small as compared with that of the molasses as a whole. Study of the associated microflora has shown that fungi are prominent when molasses is applied in high concentration while yeasts and bacteria are in considerable evidence when the product is applied in a diluted form. The mechanism of the action of the different organisms has not yet been thoroughly understood, but judging from previous evidence relating to the decomposition of carbohydrates under similar conditions, it would appear that various organic acids are the initial products of the fermentation of molasses in the soil (*J. Agric. Sci.*, 19, 627, 1929). The sugar as well as the free acids are, as such, toxic to the living plant, but, after a time, the sugar disappears and the acids react with the soil minerals rendering them more soluble. The buffer action of the soil helps to adjust the reaction. As the result of a succession of such changes the land becomes suitable for transplantation of crop after about three or four weeks. More mineral food being thus available, the plants make better growth and increased yields are obtained. Although the above would help to explain some of the hitherto obscure aspects of the problem,

further research directed towards the elucidation of the biochemical mechanism of the decomposition of molasses during 'wet' and 'dry' cultivation is greatly needed. If the biological transformations can be properly controlled so as to avoid undue loss of carbon in the gaseous form or profuse leaching out of soluble minerals; if the field practice can be so standardised that the application of molasses can be carried out without any special equipment or technical advice; if increased yields corresponding to those reported from Java can be consistently obtained under Indian conditions, then the utilisation of molasses as a fertiliser would deserve extended adoption, even in preference to use in fermentation and other industries.

It would be hardly possible to do justice to all the aspects of the problem in the course of a brief review as the present one is intended to be. It is hoped, however, that the discussion would create some interest in the subject as a whole and that the promoters of the industry and scientific workers in the country will actively co-operate in organising and carrying out an intensive programme of research which would soon help to throw light on different hitherto obscure aspects of the problem. It may further be hoped that, as the result of such efforts, the conditions for the most profitable method of utilising molasses will be standardised and that the troublesome by-product of the present moment will soon become an important source of revenue to the sugar industry.

### Asiatic Society of Bengal.

ON the 15th of January 1934, the Asiatic Society of Bengal, which was founded under the name of the *Asiatick Society*, on the 15th January 1784, by Sir William Jones, will reach the age of 150 years since its foundation. The Society was founded to inquire into the history, civil and natural, the antiquities, laws, arts, sciences and literature of Asia, and during its long existence its usefulness has spread far and wide and it has to its credit a wonderful record of achievements.

The President and Council of the Society have decided to celebrate, on the 15th of January 1934, the 150th Anniversary

of this foundation. The Anniversary programme will consist of a *Conversazione* in the Indian Museum, and a Banquet in the hall of the Society, followed by a special Anniversary Meeting to receive addresses from learned societies and to elect a number of Honorary Anniversary Members of the Society.

In connection with the centenary celebration in 1884 a volume depicting the progress of Letters and Science during the preceding 100 years was published, and it has been decided to undertake the preparation of a special volume on similar lines covering the period of the last 50 years.