Further Research on a Large Scale in Methods of Extracting Alcohol from Straw is Justified by Results Obtained by the South Australian Department of Chemistry

Dr. W. A. Hargreaves (director of the department) in a paper on "Alternative Motor Fuels" read before the first Australian Conference on Motor Fuels in Melbourne, Dr. Hargreaves referred to experiments made at the South Australian Department of Chemistry which showed that alcohol could only be profitably pursued on a large scale.

The price of straw was so great that it would not be economical to use straw on a small scale, but as the demand increased, the price would be likely to come down. He believed that the Department's work in this direction would be justified. The straw could be used for the production of alcohol.

Dr. Hargreaves mentioned that some trials had been made with the use of straw alcohol with satisfactory results. The only drawback was the difficulty of producing alcohol from straw.

Output Limited

Unfortunately the production of alcohol from straw was limited, the Department of Agriculture stated that the production from straw was limited to about 4,000 gallons per year. This was due to the fact that the straw was not available in sufficient quantity to produce alcohol on a large scale.

Bust of Sir Langdon Bonython for University

Encouraging Experiments

Regarding straw, the position was different. It had been estimated that within a 100 miles radius of Port Adelaide the straw produced annually would be sufficient to produce 100,000 gallons of alcohol. The only question was whether it was possible to produce this amount of alcohol from straw.

Dry straw consisted of 65% cellulose, 15% hemicellulose, and 20% lignin. In the process of converting straw to alcohol, the cellulose was converted to glucose, which was then fermented to alcohol.

Heavy Importations

Petrol imported into Australia in 1933-1934 was equivalent to 664,000 gallons. If all this petrol were used, it would be possible to produce more alcohol than was obtained from straw. However, there were other uses for petrol, and it was not possible to produce all of it as alcohol.

Advantages of Alcohol

The advantages of alcohol over petrol were less risk of fire, no trouble in starting, no noise, no pollution, no carbonization, no corrosion, and no need to keep the engine hot. The disadvantages included difficulty of storage, the necessity of having a large tank, and the inconvenience of carrying the petrol from the tank to the engine.

The article concluded that while alcohol was a promising alternative fuel, it was not yet ready for commercial use. Further research was necessary to overcome the difficulties associated with its production and distribution.