PROSPECTS FOR THE DEVELOPMENT OF THE PRODUCTION OF FURFURAL

M. V. Shimanskaya

The furfural obtained by processing pentosan-containing raw materials is the raw material in the manufacture of such economically important products as tetrahydrofurfuryl and furfuryl alcohols, nitrofuran medicinal and veterinary preparations, the herbicide fenazon, and a number of synthetic resins.

The regular extended session of the All-Union Council on the Use of Pentosan-Containing Raw Material in Affiliation with the Academy of Sciences of the Latvian SSR, in which problems dealing with the state of the resources and the quality of the raw material to be converted to furfural were discussed, was held in the Institute of Organic Synthesis from October 2 to October 3, 1979. Reports and speeches by I. V. Berezin (Moscow State University), G. I. Chipens and M. V. Shimanskaya (Institute of Organic Synthesis of the Academy of Sciences of the Latvian SSR), A. I. Eremin (Scientific-Production Amalgamation Gidrolizprom), S. V. Chepigo (Glavmikrobioprom), A. M. Filatova (Special Design Branch of the All-Union Scientific-Research Institute of the Synthesis of Protein), N. A. Vedernikov (Institute of Wood Chemistry, Academy of Sciences of the Latvian SSR), Ya. V. Épshtein (All-Union Scientific-Research Institute of the Synthesis of Proteins), V. G. Kul'nevich (Krasnodar Polytechnic Institute), Yu. I. Khol'kin (S. M. Kirov Academy of Wood Technology), and others were presented.

As a result of the discussion, it was established that although agricultural waste products, viz., cotton husks, sunflower and rice hulls, and corn stumps, are presently primarily used in the production of furfural, the resources of these raw materials are inadequate for the further increase in the volume of production of furfural, and new furfural factories, which are now under construction, are projected for the processing of nonliquid deciduous wood pulp and the waste products of sawmill operations and wood working. In this connection, the incorporation of technological schemes that ensure the complex utilization of all of the components of wood in the production of high yields of furfural and sugars is extremely important.

An increase in the volume of the production of furfural in the presently operating plants for the processing of agricultural waste products can be achieved both through an increase in the yields of furfural as a result of further improvement in the technology and by improvement in the quality of the raw material to be processed, e.g., through an improvement in the preservation of the raw material during storage. The development of proposals for increasing the scale of production of furfural and the products obtained from it is the central interest of the enterprises of Glavmikrobioprom and numerous research and planning institutes.

It should be noted more and more attention has recently been directed on a worldwide scale to the problem of the processing of plant raw material in connection with the acute fuel-energy crisis; the volumes of production of furfural and the products obtained by processing of the latter are increasing in many countries.

Thus the prerequisites for the rapid development of the chemistry of furan and its derivatives have been created.

Translated from Khimiya Geterotsiklicheskikh Soedinenii, No. 12, p. 1700, December, 1979.

0009-3122/79/1512-1376$07.50