

## CHRONICLES

### SECOND ALL-UNION SYMPOSIUM ON PHENOLIC COMPOUNDS

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The Second All-Union Symposium on Phenolic Compounds was held at Alma-Ata in May, 1971. There were about 300 participants in the work of the symposium, representing 58 different scientific institutes of the Soviet Union. The ever-increasing interest in the significance of investigations of phenolic compounds is shown, for example, by the fact that at the First Symposium, which was held in Moscow in 1966, about 80 papers were given, while at the second the number was about 400. The meetings of the symposium were held in four sections: chemistry, biochemistry and physiology, technology, and medical biology. As the lectures and the materials published as abstracts showed, definite advances have been achieved in the following directions.

In the field of the chemistry of natural phenolic compounds, new methods have been developed for qualitative and quantitative analysis, isolation, and structure determination (chromatographic analysis, NMR, ESR, and mass spectroscopy, optical rotatory dispersion, circular dichroism, etc.). New groups of phenolic compounds have been isolated and described (semillignan flavones, C-mono- and C-diglucosides of flavonoids, etc.). A transition from the investigation of individual species of plants to a consideration of genera and families has been noted.

In the field of plant biochemistry and physiology some questions of the biosynthesis of phenolic compounds and of the transformations of individual polyphenols in the tissues of plants and microorganisms have been studied. The functions of some groups of phenolic compounds in processes of growth and reproduction, in systems of phytoimmunity, etc., have been determined more accurately. Some aspects of the interrelationship of phenolic compounds with the basic metabolism and the metabolism of other secondary compounds have been established. Some facets of the regulation of the biosynthesis of phenolic compounds and of the influence of various factors (light, temperature, etc.) on these processes have been elucidated.

In the field of technology, investigations of the composition of phenolic compounds in materials of the foodstuffs industry (tea, grapes, fruit, and vegetables) have been broadened. Some transformations of phenolic compounds in the treatment of food products have been investigated. An improved technology for the production of grape juice and the juices of other berries and fruits with the retention of the maximum amounts of the initial polyphenols in them has been developed. The technology of the production of some preparations based on phenolic compounds of plant origin has been developed and introduced into industrial practice.

In the field of medicine and biology, the influence of polyphenols on various systems and organs of man and animals, particularly in explaining their antitumoral activity and radioprotective properties, has been studied. Investigations on the mechanism of the biological action of phenolic compounds have been broadened and deepened. More accurate and objective methods of evaluating the physiological action of preparations have been used.

In noting the definite advances and importance of the investigations considered, the symposium pointed out a number of promising directions for investigating phenolic compounds:

The further development of methods of isolation and of determining the structures of new compounds, of methods of analysis of phenols in plant materials and the products of their processing suitable for standard screening;

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a broadening of investigations in the field of the biosynthesis and metabolism of phenolic compounds in plants using labelled atoms;

the development of investigations on enzymes of the phenol metabolism;

an intensification of work on the genetic aspects and the kinetics of chemical and biochemical transformations of phenolic compounds;

a detailed study of the metabolism of phenolic compounds in the animal and human organisms;

the organization and development of the "light chemical" industry, producing materials containing phenolic compounds as stabilizers, preservatives, standards, and biologically active compounds.

The symposium directed attention to the necessity for developing closer cooperation between chemists, biochemists, physiologists, biophysicists, botanists, pharmacologists, and other specialists in the combined solution of important problems.

It was decided to hold the next Symposium on phenolic compounds in Tbilisi in 1973-1974.