<table>
<thead>
<tr>
<th>Title</th>
<th>Kondo and Mitsuda Laboratories (Special Issue on the Commemoration of the Fortieth Anniversary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s)</td>
<td></td>
</tr>
<tr>
<td>Citation</td>
<td>Bulletin of the Institute for Chemical Research, Kyoto University (1967), 44(6): 567-568</td>
</tr>
<tr>
<td>Issue Date</td>
<td>1967-02-25</td>
</tr>
<tr>
<td>URL</td>
<td><a href="http://hdl.handle.net/2433/76155">http://hdl.handle.net/2433/76155</a></td>
</tr>
<tr>
<td>Type</td>
<td>Departmental Bulletin Paper</td>
</tr>
<tr>
<td>Textversion</td>
<td>publisher</td>
</tr>
</tbody>
</table>

Kyoto University
KONDO LABORATORY  (April 1927—January 1955)

Head: Dr. Kinsuke Kondo

and

MITSUDA LABORATORY  (February 1955—May 1955)

Head: Dr. Hisateru Mitsuda

This laboratory was being under the direction of Prof. Dr. K. Kondo from April of 1927 to January of 1955. With the retirement of Prof. Kondo, the laboratory was taken over by Dr. H. Mitsuda who was Professor at this Institute since 1952. Researches undertaken by both directors cover mainly the fields of protein chemistry, food chemistry and technology, and enzyme chemistry. Results of these researches obtained until 1950 have been summarized in the Commemoration Volume for the Silver Jubilee of this Institute which was published in 1951. Followings are summary of the main achievements issued after the Silver Jubilee from this laboratory.

I. Studies on Catalase

The enzyme, catalase, was isolated and crystallized from the leaves of rice plant, cow's liver, toad liver, and baker's yeast. The stability, optimum temperature, and other basic properties were investigated for these purified preparations. It is an interesting finding that the activity of liver catalase to decompose hydrogen peroxide was depressed while its peroxidatic activity was enhanced under the atmosphere of carbon dioxide. A novel method was also established for the measurement of the catalase activity, in which an electronic manometer was used.

II. Studies on Vitamin B₁ in Plant

During the period of from 1950 to 1952, efforts were paid to establish a new soaking method to enrich Vitamin B₁ to the grain of polished rice. In parallel with these studies, mechanisms of thiamine biogenesis in plant and effects of thiamine derivatives on the growth of rice plant were studied. It was verified by using various kinds of green leaves and soybean seedlings that thiamine is synthesized in vivo from both moieties of 2-methyl-4-amino-5-hydroxymethylpyrimidine and 4-methyl-5-β-hydroxyethylthiazole. It was also found that foliar application of thiamine and some of its derivative to rice plant promotes its growth and increases the crop of the grain.

III. Studies on Algae, Yeast and Collagen as Protein Food

There is an increasing concern about the shortage of protein food which will not only develop in Japan but also prevail in the world in near future. One of the
most direct and perpetual solution of this serious problem is to develop new protein isolation techniques for converting unused or poorly used sources into human foods. Along with this line, researches have been carried out in this laboratory since 1958. An effective procedure which is based in principle on the urea extraction of protein was recently developed to prepare edible or palatable protein isolated from Chlorella algae, Torula yeast and collagen. These protein isolated were proved highly acceptable and suitable for human nutrition.

Publications

(* indicates an article published in Japanese)

I. Studies on Catalase

II. Studies on Vitamin B₁ in plant
5. H. Mitsuda, Y. Hashitani and F. Kawai: The enzymatic synthesis of thiamine in green leaves, ibid., 33, 670 (1966).*

III. Studies on Algae, Yeast and Collagen as protein food