

North Central Section Presents Bailey Award to

The 12th Presentation Dinner of the Alton E. Bailey Award was held on March 22, 1972, at Joseph's Restaurant in Hillside, Ill. The awardee, Dr. Ralph T. Holman of the Hormel Institute, University of Minnesota, Austin, received the special award from the North Central Section. Two previous medalists, Dr. J.C. Cowan and Dr. H.J. Dutton of the Northern Regional Research Laboratories, were present at the meeting. The awardee was introduced by Dr. Fred Kummerow, Director of Burnsides Research Laboratory, University of Illinois, Urbana.



President of the North Central Section, D. Erickson (right), presents the Bailey Award to R.T. Holman.

After the 12th Bailey Award was presented to Holman by Dr. Dave Erickson, President of the North Central Section, Holman delivered his medal address which was entitled "The Nutrition and Metabolism of Polyunsaturated Fatty Acids." The polyunsaturated fatty acid deficiency symptoms were reviewed, as well as the effects of treating with polyunsaturated fatty acids. One of the interesting findings was that by increasing the linoleic acid content in the diet up to the 1% level, the effects of fatty acid deficiency are reversed. Levels above 1% would actually result in a reversal of this process. This fact is often overlooked according to Holman. Some of the other deficiency symptoms that were discussed were the fatty liver



F.A. Norris, J.C. Cowan, D. Johnson.

and the erratic electrocardiograms where a doublet occurs rather than a normal singlet; serum cholesterol levels can be reduced, but also an optimum level was required. The essential fatty acids have an effect on fertilization in some cases such as in the sea urchin. It was also shown that platelet aggregation showed a relationship between carbon number of fatty acid and the position of the double bonds. Those responses for $C_{18:2}$ and $C_{20:4}$ were reviewed, and, as expected, in the liver as $C_{18:2}$ increases so does the level of arachidonic acid.

Dr. Holman discussed a method of determining essential fatty acid deficiency, and he indicated that a high $C_{20:3}$ omega 9 and a low $C_{20:4}$ acid is an indication of linoleic acid deficiency. If the ratio of $C_{20:3}$ omega 9 to $C_{20:4}$ omega 6 is calculated for a normal individual, it should be around 0.1-0.2. Anything above these values would indicate some sort of linoleic acid deficiency. He discussed the interaction of essential fatty acids in the diet where, if 1% of the diet is $C_{18:3}$ and you vary the amount of $C_{18:2}$, it was observed that with increased $C_{18:2}$ there was a depressed metabolism of $C_{18:3}$. He went on to show that enzyme systems are similar and presented data of other workers on various enzyme systems such as those found in the liver.

Areas discussed involved the elongation of fatty acids, insertion into triglycerides, desaturation, incorporation into phosphatides and triglycerides. All were directly connected with the particular position of the double bonds. In other words, the enzymes in nature are very capable of finding the position of the double bond and only recognizing those for which they were specifically designed.



B. Szuhaj, L. Goodman, F.A. Kummerow, R.T. Holman, D. Erickson, R. Krishnamurthy, J.C. Cowan.

Other factors were mentioned that may affect this selectivity, such as the amount of calcium that is present. In soybean lipoxidase, he showed that by adding calcium back, the fatty acid specificity profile could be broadened and the rate of reaction enhanced. Finally, Holman pointed out that most people on a normal diet have no indication of essential fatty acid deficiency, and that most cases occur in infants and patients who are on long term intravenous feedings with glucose and amino acids as the main source of energy.

Regarding Section business, election of officers was held. Elected president was Dr. Lars H. Wiederman of Krafteo Corp.; Dr. L.P. Goodman, also of Krafteo Corp., was elected vice-president; and Dr. B.F. Szuhaj of Central Soya, secretary-treasurer. Members-at-large are as follows: Dr. George Potter, Quaker Oats; Dr. R. Krishnamurthy, Krafteo Corp.; Mr. Philip Reilley, DPI; and Mr. Albert Bleakley, Cargill, Inc.

The next North Central Section meeting is scheduled for May 17 at Joseph's Restaurant in Hillside, Ill. This meeting is traditionally Ladies' Night and will be the final meeting for this year. A short

Ralph T. Holman

course in meat cutting is to be the topic for the evening's meeting.



From left to right: C.K. Kang, E. Poling, F.A. Kummerow.



R.H. Maas of Oscar Mayer, A. Bleakley of Cargill, Inc., D.R. Erickson of Swift and Co., A.A. Rodeghier of Glidden Durkee-SCM, R.T. Holman of Hormel Institute, T.H. Applewhite of Kraftco Corp., R.A. Reiners of CPC, and B.F. Szuhaaj of Central Soya Co.

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