of scurvy in four weeks, whereas the control group on a similar amount of the vitamin in fresh juice did not become diseased. The orange juice was then treated with H_2S (*2*) and found to contain only 4 mg. per cent of dehydroascorbic acid. It seemed unlikely, therefore, that the high value obtained by the phenylhydrazine method was due to vitamin C (to include ascorbic acid and dehydroascorbic acid). It was more likely that mutarotation had occurred with loss of lactone structure (*2*) and formation of diketogulonic acid. Similar results, obtained with synthetic ascorbic acid, are presented in Table 1.

TABLE 1

ASSAY VALUE OF SYNTHETIC ASCORBIC ACID
(Unbuffered in aqueous systems)
Water Bath Temperature 38° C.
Mg./100 ml.

Gas	Ascorbic acid (reductone)		Dehydroascorbic acid (by H_2S)		Total vitamin C content of fluid		Value obtained by dinitrophenylhydrazine		Final H-ion concentration pH	
Gas used	N_2	O_2	N_2	O_2	N_2	O_2	N_2	O_2	N_2	O_2
(Time)										
Initial	22.6	19.4	1.8	4.06	24.4	23.46	27.0	27.0	5.02	4.97
2 hours	12.8	0	4.4	7.0	17.2	7.0	26.0	23.0	5.05	5.05
4 hours	7.2	0	5.6	5.2	12.8	5.2	27.0	21.5	5.32	5.30
6 hours	5.2	0	6.8	7.0	12.0	7.0	26.0	20.0	5.50	5.50

H-ion concentration of glass distilled water = pH 6.22.
No extraordinary precautions were taken other than the meticulous cleansing of glassware throughout. However, catalytic oxidation and not autoxidation occurred, because at this hydrogen-ion concentration there should have been little or no change in ascorbic acid values when aerated with nitrogen (*1*).

From these data it is apparent that the phenylhydrazine reaction is not necessarily specific for dehydroascorbic acid. This is borne out by previous studies which show that 2,4-dinitrophenylhydrazine reacts with diketogulonic acid (*3*), possibly phenylpyruvic acid (*4*), and other alpha-keto acids (*7*).

Thus, the 2,4-dinitrophenylhydrazine method may give unreliable results for the antiscorbutic value of certain biological preparations if loss in lactone structure of dehydroascorbic acid has taken place. Its use for the laboratory evaluation of blood and possibly urine is warranted (*5*); other biological tissues must be assayed with caution in regard to oxidation products of ascorbic acid or other substances entering into the phenylhydrazine reaction.

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News and Notes

Dr. Margery C. Carlson, assistant professor of botany at Northwestern University, has been granted leave for three months to undertake an expedition collecting plants in the region of Ahuachapán, El Salvador, close to the Guatemalan border. The expedition is a joint research project sponsored by the Chicago Natural History Museum and Northwestern University. Mr. Paul C. Standley of the Museum suggested this area for study because of its accessibility and because its floristics are practically unknown. The plants collected will fill an important gap in our knowledge of the flora of Central America. Special attention will be paid to the flowering plants of the region. In addition, effort will be made to get representative samples of algae, fungi, and certain forms of beetles. Dr. Carlson was accompanied by Miss Kate Staley, who will assist her in the field work. Guides and native helpers will be secured locally. This expedition is of considerable interest, not only because the territory is practically unexplored botanically, but also because Dr. Carlson is perhaps the first woman to lead a natural scientific expedition to El Salvador.

Dr. C. G. Brennecke, head of the Electrical Engineering Department, North Carolina State College, delivered a lecture on 10 January before the Sigma Xi Chapter of North Carolina State College. Dr. Brennecke spoke on "Atomic Energy."

Announcements

The Associated Press carried a dispatch from Canberra on 28 December 1945 declaring that "Australian scientists" had announced a new drug, paludrine, "which rendered malaria no more harmful than a common cold."

Richardson, Bellows, Henry and Company, Inc., personnel research analysts and consultants, have opened offices at 56 Beaver Street, New York 4, New York. The company will engage in the construction of aptitude, technical knowledge, interest, and personality tests, the development of directed interviewing methods and merit rating procedures, and the conduct of employee attitude and market surveys. Lt. Col. Marion W. Richardson, chairman of the Board of Directors, has served during the war as chief of Personnel Research, The Adjutant General's Office, War Department. Drs. Robert J. Wherry, Edward E. Cureton, Roger M. Bellows, Harold A. Edgerton, Douglas H. Fryer, Edwin R. Henry, Paul Horst, Herman H. Remmers, Robert C. Rogers, and Carroll L. Shartle are also associated with the company in various capacities.

Tuskegee Institute has received a grant of $5,400 from Swift and Company for research in animal nutrition. The grant covers a period of two years, and the specific problem is concerned with the "Mung Bean and Other Special Proteins for Poultry Feeding." The research will be directed by Dr. W. E. Belton, associate professor and head of the Department of Chemistry, with the assistance of Mr. E. J. Jefferson, assistant professor of poultry husbandry. The grant includes stipends for two graduate research assistants, one in chemistry and one in poultry husbandry. Dr. Belton and Mr. Jefferson are members of the staff of the George Washington Carver Foundation, a research organization of Tuskegee Institute founded by Dr. Carver in 1940 with an initial gift of $60,000. The research program of the Carver Foundation is concerned largely with the utilization of agricultural resources, with both practical and fundamental emphasis. In addition to research on problems which have developed through its own interests, the Carver Foundation also conducts a limited amount of research for private industry on a commercial basis, which serves as a source of needed income as well as to provide industrial experience for graduate students majoring in industrial chemistry.

Michigan State College has announced a gift of $15,600 from Swift and Company, Chicago, for a two-year study of the microscopic anatomy of fowl, which will be carried on by the College in cooperation with the U. S. Regional Poultry Research Laboratory.

The Governing Board of the Pan American Union, at its regular monthly session for January, requested the Government of the United States to convoke a Conservation Congress here in June 1947 to consider the problem of the protection and better utilization of this hemisphere's renewable resources.

This action, which was unanimously recommended by the Third Inter-American Agricultural Conference in Caracas, Venezuela, last July, is the result of studies carried on through facilities of the Pan American Union in a number of Latin-American countries and the United States during the past two and a half years. Prepared under the direction of Mr. William Vogt, chief of the Conservation Section, Division of Agricultural Cooperation of the Pan American Union, these studies have revealed such an alarming downward trend in the natural resources of the hemisphere that the conference is projected for the purpose of assembling and coordinating information on natural resources, and the initiation of conservation programs.

Latin America, according to Mr. Vogt, is far from being the rich storehouse of untapped natural resources that many people consider it to be. Vast areas have been deforested, and the destruction of forests is increasing at an accelerated rate. Overgrazing, through the maintenance of excessively large herds of cattle, sheep, and especially goats, is very general. With the destruction of vegetation, soil erosion has become the number one problem in most Latin-American countries. Rivers are silting in some cases, it is believed, at a faster rate than the Mississippi; and floods, resulting from upstream misuse of the land, are becoming increasingly dangerous. Wild life, potentially a very important resource in Latin America, is being exterminated through widespread destruction of habitat and, in many countries, through uncontrolled hunting.

"The Latin American problem," Mr. Vogt stated, "of course parallels the problem in the U. S. It is less serious in North America, however, for two reasons. The first is that public opinion has been sufficiently aroused so that we spend in the neighborhood of $1,000,000,000 a year on conservation, whereas Latin America, with approximately the same population, does not spend 5 per cent of this amount.

"The second advantage possessed by the United States is that it has far greater riches and is a much easier country to live with. Aside from the Argentine pampa, Latin America has no land comparable to our

Middle West. Most of the territory occupied by human beings in Latin America is hilly and subject to such heavy rainfalls that agriculture requires far more advanced practices than have been adopted by Latin American rural populations, or than are likely to be within many years."

The conference will be devoted primarily to field studies of land-use problems, such as sustained-yield forestry, grazing-land administration, national parks, watershed organization and water conservation, wild-life management and soil conservation districts, and perhaps marine and stream fisheries management and research.

"The American Republics," he adds, "are living on their capital and, unless there is a radical change in land management, they will become bankrupt. Within a hundred years, Mexico, for example, will have been largely destroyed. In some of the smaller countries, the situation is probably more serious. The person who knows how to read the land in relation to human occupancy cannot escape the conclusion that in many of our neighboring republics, living standards are steadily falling because of waste of natural resources. The problem is made even more critical by the fact that population trends are, in general, rising."

Dr. William H. Cole, director, Rutgers University Research Council, reports that Rutgers University, nine pharmaceutical manufacturers, and the Army Quartermaster Corps are pooling their knowledge and resources in an extensive cooperative research program which is making basic scientific studies of the properties and therapeutic values of protein hydrolysates and amino acids. When the work started in the Fall of 1943, the Bureau of Biological Research at Rutgers was cooperating with one industrial laboratory and only the equivalent of 5.5 full-time persons and 4 consultants were engaged in the project. Now nine laboratories and the Quartermaster Corps are cooperating in the study, and 24 persons, including 12 full-time investigators and 7 consultants, are participating in the research effort. Studies on the use of proteins, protein hydrolysates, and amino acid mixtures in normal and hypoproteinemic dogs were started to answer basic questions for a better understanding of protein metabolism—questions which must be answered if the use of convalescence is to have a sound basis. It was agreed at the start of the work that the team approach to the problems would be used and that all plans and results would be freely discussed at regular conferences of the Bureau staff and representatives of the cooperating organizations. In addition to frequent conferences for those participating in the project, two larger meetings were held during 1944–1945 so that other persons interested in the work could sit in on the discussions. Mimeographed reports of the proceedings were distributed to those who attended and to others who requested the information.

For the year beginning 1 October 1945, ten groups are cooperating in the project. Rutgers University through its University Research Council is contributing $32,610 and the laboratories $39,000 for the support of the work. The cooperating groups are: Sharp and Dohme Company; Swift and Company; E. R. Squibb and Sons; Arlington Chemical Company; Calco Chemical Company; Inter-Chemical Corporation; Abbott Laboratories; Merck and Company; Eli Lilly and Company; and the Quartermaster Corps of the U. S. Army.

A one-story, fireproof building of about 8,000 square feet of floor space is being planned to house the work and will be built when labor and material conditions permit. It will contain the most modern equipment and facilities for studies of dogs, rabbits, and rats. About one-third of the building will be air-conditioned.

Several scientific reports on the project already have appeared, and others are in preparation. Inquiries concerning the work should be addressed to Dr. James B. Allison, Rutgers University, New Brunswick, New Jersey. Dr. Allison, professor of biochemistry and physiology, is director and coordinator of the program.

Meetings

The Metropolitan Microchemical Society is sponsoring a symposium on microchemistry for the purpose of stimulating interest in this field. The symposium will be held on 1–2 March in Room 319, Roosevelt Memorial Building, American Museum of Natural History, New York City. The program follows:

Friday evening—"Welcome": L. K. Yanowski, Department of Chemistry, Fordham University; "Introduction": Al Steyermark, Microchemical Department, Hoffmann-La Roche, Inc., Nutley, New Jersey; "Weighing on a Micro Scale": L. T. Hallett, General Aniline and Film Corporation, Easton, Pennsylvania; "Microgram Methods": A. A. Benedetti-Pichler, Queens College. *Saturday morning*—"Volumetric Determinations": A. Sobel, Brooklyn Jewish Hospital; "Discussion of the Van Slyke Manometric Blood Gas Apparatus and Its Applications": D. D. Van Slyke, Hospital of the Rockefeller Institute for Medical Research, New York; "Mass Spectrometer": D. Rittenberg, College of Physicians and Surgeons, New York; "Photometric and Spectrophotometric Analysis": D. L. Drabkin, University of Pennsylvania.