SCIENCE NOTES AND NEWS

Cabbage Crinkled-Leaf Var. belonging to the Genus Brassica

Dr. T. S Sabnis from Cawnpore writes:—

One of the cabbage plants of the crinkled-leaf variety did seem to develop a proper head. When it was dug out, it showed a head-like

structure developed near one of the lateral roots (fig.). It may be a phenomenon of proliferation of buds from the root.

National Institute of Sciences of India: Elections

At the annual general meeting of the National Institute of Sciences of India, held at Patna on January 1, the following new fellows were elected: Dr. B. S. Bhimachar, Fisheries Officer with the Government of Mysore, Bangalore; Pratap Chandra Bose, Chief Engineer, Corporation of Calcutta; Dr. Satya Charan Chatterjee, Head of the Department of Geography, Patna College, Bankipur, Patna; Jehangir Fardunji Dastur, Head of the Division of Mycology, Indian Agricultural Research Institute, New Delhi; Dr. Arun Kumar Dutta, Reader in Physics, Dacca University; Dr. Rukmini Kishore Dutta Roy, Geological Survey of India, Calcutta; Dr. Robert E. Heilig, Chief Physician, Jaipur; Dr. Kolar Ramakrishna Krishnaswami, Director of Industries, Bihar, Patna; R. A. MacGregor, formerly Chief Metallurgist to the Government of India, Calcutta; Ganesh Chandra Mitter, Chief Assayer, His Majesty's Mint, Bombay, and Honorary Professor of Industrial Chemistry, Royal Institute of Science, Bombay; Dr. Mahadeo Atmaram Moghe, Professor of Zoology, College of Science, Nagpur, and Head of the Department of Zoology and Dean of the Faculty of Science, Nagpur University; Dr. S. P. Raju, Director of the Engineering Research Department, H.E.H. Nizam's Government, Hyderabad, Deccan; Dr. Srinivasa Ramanujam, Central Potato Research Institute, New Delhi; Dr. Subbarao Ramachandra Rao, Professor of Physics, Central College, Bangalore; Dr. Jyotis Chandra Ray, Director, Indian Institute for Medical Research, Calcutta.

Royal Asiatic Society of Bengal

The following are the recipients of Medals of the Royal Asiatic Society of Bengal:—

Barclay Memorial Medal.—Rai Bahadur K. C. Mehta.

Joy Gobind Law Memorial Medal.—Dr. Lieven Ferdinand de Beaufort of Amsterdam.

Paul Johannes Bruhl Memorial Medal.—Prof. S. R. Bose.

Dr. Bimala Churn Law Gold Medal.—Dr. B. M. Barua.

Sir Jadunath Sarkar Gold Medal.—Sir P. S. S. Pissurlencar, Nova Goa.

Madras University Prizes

Candidates are invited to submit theses for the award of the following prizes awarded by the University of Madras: Sir William Wedderburn Prize (1948); The Maharaja of Travancore Curzon Prizes (1948-49); The Gokhale Prize (1948-49); and The Shankara Parvathi Prize (1948-49).

The subjects and last dates of submission of theses, the values and conditions of award and other particulars may be found in Vol. I, Pt. I, Appendix F of the University Calendar, Madras.

International Geological Congress

The eighteenth session of the International Geological Congress will be held in London during the period August 25 to September 1, 1948. Prof. H.H. Read is the President-designate of the Congress.

Full details may be obtained from the General Secretaries of the Congress, Geological Survey and Museum, Exhibition Road, London, S.W. 7.

International Congress of Anthropological and Ethnological Sciences

The third session of the Congress will be held at Brussels Teruveren during August 15-23, 1948. The President will be Prof. Ed. De Johghe and Secretary Prof. Frans M. Alberechts. Correspondence should be addressed to the Secretary, Muscee du Congo Belge, Teruveren, Brussels.

Captain Inderjit Singh

Captain Inderjit Singh, F.A.SC., Professor of Physiology, Dow Medical College, Karachi, has been appointed Professor of Physiology, Medical College, Agra.

Army Medical Training

India's armed forces will soon have their biggest medical training centre established in *Poona. The main nucleus of the centre will be* provided by the Army Medical College, already functioning at Ganeshkhind in Poona, and it will bring about a co-ordination in the activities of this College and other similar military institutions, such as the Central Pathological Laboratory, the Blood Transfusion Centre, the School of Radiology and the Typhus Research Station.

Scientific Education through Films

Mr. K. C. Reddy, Chief Minister, Mysore, inaugurated the Scientific Film Society on the 29th February in Bangalore.

Prof. M. S. Thacker of the Indian Institute of Science, the Vice-President of the Society, welcoming the Chief Minister, stressed the need for such a society to educate the people in scientific progress and technical developments through the medium of films.

The Scientific Film Society, of which Sir J. C. *Ghosh is President, is the first of its kind in* India. Its membership is open to all. The *Society proposes to produce and exhibit films* on scientific subjects in a way which can be easily understood by the common man.

Donation for Electro-Chemical Research

Dr. R. M. Alagappa Chettiar has made a munificent donation of Rs. 15 lakhs towards the *establishment of an Electro-Chemical* Research Institute in South India under the auspices of the Indian Research Council.

The Governing Body of the Council has sanctioned a sum of Rs. 6·5 lakhs for the renewal of 100 research schemes which are in operation in various universities and research institutions all over India under the auspices of the Council.

The Governing Body of the Council of Scientific and Industrial Research sanctioned the fol*lowing new schemes of research entailing* a cost of Rs. 87,000 and recommended by the Board of Scientific and Industrial Research, which also held its meeting on February 5, in New Delhi, under the presidentship of Pandit *Jawaharlal Nehru: (1) Investigations on ura*nium, thorium and radium content of Madras granites and gneisses, and their intrusive suits, including the Cuddapah traps, by Dr. R. S. Krishnan. (2) Recovery of primary metals *from non-ferrous scrap,* by Mr. G. C. Mitter. (3) Investigation of a general effect of light on the electrical conductivity of systems activated by various types of discharge, by Dr. S. S. Joshi. (4) Study of the properties of crystalline quartz, particularly the piezo-electric, optical and twining properties in relation to its crystal structure, by Dr. Bishambar Dayal Saxena. (5) Scheme of research on synthetic fibres from proteins, by Sir S. S. Bhatnagar. (6) Preparation of vinyl plastics from alcohol and chlorine, by Dr. S. K. K. Jatkar. (7) Pilot plant investigations on the production of acetic acid from ethyl alcohol, by Sir J. C. Ghosh, (8) Effect of radiation on moulds, bacteria, etc., in relation to their metabolism, by Dr. B. C. Guha. (9) Manufacture of vitamin C from sorbose, by Dr. M. Damodaran. (10) Study of surface-active higher alkyl ammonium actions as antibacterials, by Dr. M. Damodaran. (11) Study of Microbiological methods for the estimation of complex organic substances of industrial and nutritional importance, by Dr. M. Damodaran. (12) Preparation of phosphanilic and related substances, by Prof. S. V. Bhide.

Leather Technology

It has been decided to locate the proposed Institute of Leather Technology at Guindy under the name of the Indian Leather Research Association.

This decision followed discussions which Sir Shanti Swarup Bhatnagar, Director of the Council of Scientific and Industrial Research, Government of India, had with Mr. H. Seetharama Reddi, Minister for Industries, Madras.

Power Alcohol in India

The Commerce Minister to the Government of India, Mr. C. H. Bhabha, introduced in the Dominion Parliament a Bill to provide for the development of the power alcohol industry on the 1st of March.

The statement of objects and reasons of the *Bill says: "The development of the power al*cohol industry is of national importance both from the point of view of using the molasses which would otherwise be wasted, and of creating in the country the nucleus of an industry which would be of importance in times of emergency. The utilisation of power alcohol would also reduce the price of sugar and reduce *our dependence on petrol. It would, however,* not be possible for most of the provinces producing molasses to absorb their total production of power alcohol within their own limits. It is, therefore, necessary to adopt measures to utilise their surpluses in other provinces in which production would not be sufficient to meet their requirements.

The panel for the development of sugar, power alcohol and food yeast industries which was set up by the Government of India recommended that admixture of power alcohol with petrol should be made compulsory for the whole country and enforced in such areas as are notified from time to time. The Industries Conference, held in December 1947, in which representatives of Provincial and State Governments participated, also unanimously passed a resolution in support of the proposed legislation.

Metal Films by Evaporation

A continuous process of applying, by evapo*ration, films of metal to the surfaces of sheet* materials has been developed by National Research Corporation, Cambridge, Massachusetts.

While such metals as aluminium have long been applied to the surface of glass or other material by batch methods, their quick, continuous application to continuous rolls at high speeds has not been practical until now. The National Research process applies *extremely* thin films of aluminium, silver, gold, zinc, copper and other metals to the surfaces of papers, textiles and various plastic sheets at linear speeds of hundreds of feet per minute.

Because of the extreme thinness of the film, the flexibility of the base material is not affect-

ed; and the moisture vapour transmission is reduced. Adhesion varies with the material. Finish is limited only by that of the base material, and on polished surfaces the brilliance exceeds that of foil. The method is claimed to be inherently more practical and economical than the rolling of foil, and its cost is materially lower.

At present the process recommends itself for use in decorative materials of great variety —wrapping papers, ribbons and novelty fabrics and particularly those packing materials in which beauty and novelty are the selling features. Various electronic uses have also been tested. Capacitors or condensers formed from zinc-coated paper have self-healing qualities, promising longer life to such units.

Radar Detects Meteor Showers

Radar has been pressed into service in the detection of Meteors reaching the earth. So far, it was only possible to study them only during nights, as they were not visible during the day. The possibility of studying them by day-time is a result of war research in Great Britain.

During the war, the radar instruments proved very reliable in keeping a watch over V-2 rockets coming from the Continent—both day and night. But strangely enough they recorded radio echoes repeatedly even when there were no V-2's in flight. This riddle was soon solved by Dr. J. S. Hey of the Army Research group. The mysterious echoes came, not from German rockets, but from Meteors.

It should be noted that radio waves are not reflected from the "Falling Stars" themselves, the latter usually being very small—often no bigger than a pea or a pin-head. But these minute stone or earth particles from space rush with terrific speed towards the earth, a hundred times faster than a gun bullet. When meteors reach the earth's upper atmosphere, at a height of about 100 km., the friction—the rebounding action of the air molecules—causes such intense heat that the particles normally burn. Hence the flash of the falling star can sometimes be observed for several seconds in the night sky.

During this process ionised gas molecules are created and remain in the wake of the meteor like the tail of a comet, and it is these charged gas particles which throw back the radio waves and are visible on the radar instruments. It has been shown that waves of 5-30 metre length, such as were used during World War II with radar instruments for military purposes, also give good results in meteoric research.

The chance discovery of Dr. Hey gave rise to intensive research work after the war in Britain. One decisive advantage was that radar observation could be made as well by day as by night and is quite independent of weather influences. It is, therefore, possible to follow the path of meteors during day-light and with a very cloudy sky.

As the meteor showers do not arrive until after midnight and continue on into the day, astronomers had formerly only been able to observe a part of the shower. When radar instruments were, however, set for this purpose during last May, it was found that the shower did not diminish in daylight but, on the contrary, increased, and by mid-day had attained such intensity hitherto unknown in a regular meteor shower. This phenomenon was still to be seen during the following days and throughout the month of June and into July.

Manufacture of Phosporus in India

The Journal of Scientific and Industrial Research (October 1947) reports that a pilot plant for the manufacture of 1 ton of phosphorus per day from rock phosphate has been designed at the Indian Institute of Science, Bangalore.

The annual consumption of red phosphorus in India was about 150 tons before war. The present-day requirements of Indian match and non-ferrous metallurgical industries is estimated to be about 200-250 tons.

Most of the requisite equipment for the proposed pilot plant can be fabricated in India, while the raw materials are readily available. The capital expenditure of such a plant would be about Rs. 3 lakhs, while the building and working capital will cost about Rs. 2 lakhs. The cost per pound of amorphous red phosphorus produced is estimated at 10 as. 7 p.

Distilled Sea Water for Irrigation

The sun's rays are to be utilized in an attempt to distil sea-water for irrigation purposes in the Kathiawar, Rajputana and Sind desert areas.

Dr. J. Saidman, Director of the Pan's Institute of Actinology, Paris, has arrived in India on an invitation from the Jam Sahib of Nawanagar, where preliminary experiments on the plan are to be conducted. A resolving solarium already exists in the State.

Under the scheme, water will be boiled with the aid of the solarium, and converted into vapour. The vapour will be converted into pure water, and transmitted through large pipes to cultivated tracts. The experiment is expected to be under way by the end of next year. Dr. Saidman was confident that it would prove successful, and, if machinery were available, he hoped that the entire scheme would be completed within ten years.

Large quantities of salt would also be available. While it would be fit for human consumption, the major portion could be used for manufacturing chemicals.

Dr. P. Venkateswarlu

Dr. P. Venkateswarlu, who is now working with Professor Niels Bohr as an International Research Fellow, has been elected to a post-doctoral research fellowship at the University of Chicago.

Nutritional Value of Vanaspati

A comprehensive scheme of research, including nutritional and feeding tests as well as chemical studies from the scientific point of view of Vanaspati was approved for investigation at the University College of Science, Calcutta, The Indian Institute of Science, Bangalore, The Nutrition Research Laboratories, Coonoor, and the Department of Chemical Technology, Bombay. This scheme was drawn up by the Vanaspati Research Advisory Committee set up by the Council and will be financed by the Vanaspati Manufacturers' Association.

Col. Sokhey

Col Sir Sahib Singh Sokhey, Director of the Haffkine Institute, Bombay, left Bombay on March 15 to attend the meeting of the World Health Organisation's Experts Committee on Biological Standards to be held at Geneva from March 18th to 31st. Sir Sahib Singh will later proceed to America in connection with the penicillin project of the Government of India and also attend the International Congress on Tropical Medicine to be held at Washington in May.

Natural Resources of States

It is learnt that a large number of major Indian States have decided to establish an "Economic Chamber of Indian States" with a central office at New Delhi to formulate a coordinated economic policy for the best utilisation of the natural resources of these States and to enrich them with rapid industrialisation and extend their markets to foreign countries.

In this connection, H. H. the Gaekwar of Baroda convened a conference of Rulers in Calcutta on March 14.

The Conference discussed the question of appointing a permanent Advisory Committee with scientists, meteorologists, technicians and engineers to survey and devise measures for the utilisation of the resources of the States and a Development Board which will work as *liaison* between the Development Departments of the Government of India and those of the Indian States.

A New Plastic Material

The Council of Scientific and Industrial Research has developed a new patented process ready for exploitation for the manufacture of resin-impregnated sheets and boards and drawn laminated mouldings. By this process a large variety of attractive moulded articles can be manufactured which are superior to and more economical than those made from powder mouldings.

Powder-moulded products are brittle and break easily on impact whereas drawn laminated mouldings possess an extraordinary degree of toughness and will not break. Also articles possessing intricate shapes can be produced from impregnated sheet fabric because of the inherent properties of laminate materials.

By this process articles possessing attractive styles, fancy shapes, colours and patterns, can be produced. The manufacturer is thus enabled to cover a wide range of consumer goods from household articles, furniture, decorative objects, building materials, gears, children toys and stationery.

This process utilizes ordinary resins, jute, cotton and other material available in India and the manufactured cost of impregnated laminated moulded articles is very low.

South Indian Science Association

The Silver Jubilee of the South Indian Science Association was celebrated on the 25th and 26th of this month in Bangalore. The celebrations were inaugurated by Mr. K. C. Reddy, Prime Minister of Mysore. Sir C. V. Raman delivered the Jubilee Address on the first day. On the 26th, a symposium on "Nutrition in South India" and a discussion on the "Medium of Instructions in Science Subjects in Indian Universities" were held. Scientific and Educational Films were also exhibited on the occasion.

Publications Received

Conference on Industrial Development in India, New Delhi, 15th to 18th December 1947, *Agenda and Notes with Reports of Departmental and Conference Committees and Resolutions passed.* (Published by the Manager, Government of India Press, New Delhi), 1948.

Conference on Industrial Development in India, New Delhi, 15th to 18th December 1947, *Proceedings.* (Published by the Manager, Government of India Press, New Delhi.)

Patent Office Handbook. Seventh Edition. (The Manager of Publications, Delhi), 1947. Price Re. 1.

Dyeing Properties of Indian Cottons. By D. L. Sen and Nazir Ahmed. (Indian Central Cotton Committee Technological Laboratory), 1947. Price Annas 12.

Estimation of Wax Content and Feel of a Cotton from Its Physical Characters. By C. Nanjundayya. (Indian Central Cotton Committee Technological Laboratory), 1947. Price As. 8.

Report on the Discolouration of Bleached Bamboo and Grass Pulps During Storage. By M. P. Bhargava and P. C. Bhatra. (The Forest Research Institute, Dehra Dun), 1947. Price Annas 5.

Field Songs of Chhatisgarh. (Published by The Universal Publishers, Lucknow), 1947. Price Rs. 3-12.

Annual Report on the Health of the Army in India for the Year 1944, Vol. VII, Pt. 1. (Published by the Manager of Publications, Delhi), 1947. Price Rs. 2-2.

223-48 Printed at The Bangalore Press, Bangalore City, by G. Srinivasa Rao, Superintendent and Published by Dr. M. A. Govinda Rau, M.A., Ph.D., for The Current Science Association, Bangalore